The Province of Alberta

IN THE MATTER OF THE PUBLIC INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the 12th day of October, A.D. 1938, to inquire into matters connected with Petroleum and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY (*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta DECEMBER 16th, 1938

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Gas cap should be
Put in 631

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Witnesses:

E X H I B I T S

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(CONTINUED CROSS-EXAMINATION OF THE WITNESS MR. STANLEY J. DAVIES BY DR. BOATRIGHT).

Q Mr. Davies, I would like to refer to your statement No. 4 on page 50 and as a factor for analysis of the figures on that page I would like to review a little of your past testimony. I believe I am correct in stating that from your testimony the gas-oil ratio in area "B" is approximately one-sixth the gas-oil ratio of area "A".

A That is correct.

Q Referring then to statement No. 4 I believe that your method of analysis in barrels first the original bottom-hole pressure which was taken in 1936, what is your starting pressure is it not, for these figures?

A No, the date of completion, it is marked right on it.

Q The date of completion is your date?

A Yes.

Q And in a great many cases that bottom-hole pressure had to be estimated, is that correct?

A That is correct.

Q And would you mind telling us how you estimate that bottom-hole pressure?

A Well in nearly all cases we took a well near to it that we knew the bottom-hole pressure of or we took the closed-in pressure of a well near to it, that we had the closed-in pressure of. I went to a great deal of care to get these as nearly accurate as it was humanly possible.

Q You did not however, in taking that bottom-hole pressure take the distance below the 4,000 foot datum plane?

A No, you see these were interfered with by drainage in nearly every case or another.

Q But you did not take that figure in?

A No, it would not be correct if I did.

Q You do not know that these figures are correct, however, do you?

A Some of them I do. The others are very close.

Q But you do not know that they are correct?

A No, I would not say that, I know they are correct.

Q Now going on then in this analysis you took the estimated bottom-hole pressure at the well at the time the well came in?

A That is correct.

Q Which in a few instances may have been actual but in the majority of cases it was inaccurate; you have taken the total amount of oil and gas which has been produced since that time?

A That is right.

Q Up to what date?

A October 31st.

Q Then you take the average bottom-hole pressure or the bottom-hole pressure of that particular well as of November?

A The last one; in nearly all cases it is November; There are two or three of Octobers.

Q But in general it is of November?

A That is right.

Q Then you take the rate of pressure-drop which has occurred, divided by the bottom-hole pressure as of November 1938, is that correct?

A The pressure-drop?

Q The amount of gas that was produced during that interval was then divided or was multiplied---

A Multiplied by.

Q Multiplied by the rate of the pressure-drop divided by the present bottom-hole pressure, is that right?

A The other way around.

Q I will restate it, you multiply the total amount of gas which has been produced to date by the rate obtained by taking the present bottom-hole pressure, divided by the total pressure-drop?

A That is correct.

Q Then you take the gas-oil ratio as of October?

A That is right.

Q And divide the volume of gas obtained by multiplying the total gas production to November?

A Dividing it, you divide it.

Q Multiplied by the pressure rate?

A Just a minute until I get that right. I took the volume of gas left in the ground, I didn't quite get the question.

Q Will you read it as far as I have gone please. (Reporter reading) "Q. And you took the gas-oil ratio as of October. A. That is right. Q. And divided the volume of gas obtained by multiplying the total gas production to November? A. Dividing it, you divide it. Q. Multiplied by the pressure rate?"

Q DR. BOATRIGHT: Let us re-state the whole thing. In arriving at the barrels yet to be produced you took the volume of gas still in the ground?

A That is right.

Q Which you obtained by multiplying the gas production to November by the ratio of the present bottom-hole pressure divided by the pressure-drop?

A That is correct.

Q And that quantity then was divided by the gas-oil ratio of October giving the volume of oil yet in the ground?

A That is correct.

Q Now in analysing those pressures then we come to the original pressure which in a great many instances was estimated by you?

A That is right.

Q The bottom-hole pressure was taken in November and was taken under government supervision in a number of cases?

A None I think except in three or four.

Q Only three or four were taken by the government?

A No, I have it if you wish.

Q No, it is not necessary.

A These are practically all Royalite.

Q They are mostly Royalite figures?

A Yes.

Q That is fine. In other words there is no reason to doubt these figures except in this respect that your gas-oil ratio was taken for the month of October and your pressures were taken as of the month of November and from our previous discussion

we know that the pressures throughout the field are rising and therefore, because of the fact that the gas-oil ratio is a function of the bottom-hole pressure in addition to the rate of flow, that these figures, there may be some discrepancies in the gas-oil ratio figures as compared with that bottom-hole pressure as of November.

A Yes, I have and will have more, my Lord, on this adjournment to January 9th, if it is possible to leave this. These bottom-hole pressures are taken, there are a couple taken in December, which are still lower than the figures I use there and a couple that are higher, and with regard to the November gas-oil ratios, I grant there is a discrepancy there but I will get the figures which we actually will have, which will obviate using that discrepancy.

Q Now am I correct in stating that the area "B" indicates that if further development proves up the area at the West that you may expect progressively lesser gas-oil ratios?

A The gas-oil ratios in area "B" are increasing.

Q No, but the radiant of gas-oil ratios upon completion of the well---

A Quite true.

Q Is getting lower and lower?

A I think so.

Q You remember the Anglo-Canadian which was not considered in your report has a very low gas-oil ratio?

A I understand so.

Q Do you know anything about the Home-Willarville No. 2 which has recently been completed?

A Not a thing.

Q You do not know the well had produced about at the rate of 240,000 cubic feet of gas a day yesterday?

A No.

Q And at the rate of about 45 barrels of oil in two hours or approximately 500 barrels a day?

A No I have not. We have not got any information, at least I have not.

Q That would give a gas-oil ratio for about 500 for that particular well?

A I might say we do not pay much attention to the first few days.

Q No, but so far as you know you would normally expect lesser gas-oil ratios?

A Oh undoubtedly.

Q Now I think referring back to our gas-oil ratios of 6 to 1 if in making your estimate you had used the gas-oil ratios in area "B" then your recoverable figure would have been six times as high as it was, would it not?

A Well I saw no necessity for using the gas-oil ratio in area "B" when I used the facts as they were in area "A".

Q Is not area "B" more nearly a criterion of what future oil reserves will be, than area "A"?

A I have got a graph about that. I am not at all satisfied yet that our greatest recovery is not

going to be in the area some place.

Q Would it not have been better?

A Between this gas area and the area where wells will practically not flow at all. We get into this question of not having gas down dip, works both ways.

Q THE CHAIRMAN: That is down here?

A That is down the structure, down on the structure my Lord. It does not bring the oil into the hole if it not there either and that is a factor which is a very important one and it may be that our greatest recovery will be in some area where we have high pressure and sufficient gas to carry that oil into the hole and that the wells were down dip.

Q What area have you in mind?

A Well we will say on the western side of area "A" or the eastern side of area "B". We have some very substantial wells such as Commoil which is just on the eastern boundary line of area "B" or carry on further down we have Sunset No. 1 and we have Prairie No. 1. They are all on the eastern boundary of area "A" and they have just sufficient gas to make them very excellent producing wells, while if we go some distance down to the west there is very considerable indication that a number of those wells will not flow and have to be assisted to start and that factor is important as to whether it will carry that oil into the hole.

Q DR. BOATRIGHT: That factor is also related to the method of the completion of the well, is it not?

A Well we have discussed the completion of these wells and experts who are doing it at long length, weeks in fact, and that is an unsettled conclusion at this time.

Q So then you are not sure of it being characteristic of the well?

A No, I am not sure but I am sure of this, that there are a number of wells which have been completed and whatever the conditions are they exist there, and whatever those conditions are our production will be governed by whatever those conditions are at this time.

Q And you do not know where this hypothetical area is yet, do you?

A No, we do not. We have been watching it very closely.

Q The Anglo-Canadian well is flowing, is it not?

A I cannot say as to that. I understand they used in-put gas to start it with.

Q Going to your area "B", how did you determine the reserves in the area "B" which you gave?

A I took the pressure, I took all the production in area "B" and then took it that area "B" would produce, because it had a high pressure to start with, then the average of area "A", that it would produce as much as area "A" and in addition the amount produced by virtue of that high pressure.

Q Why did you take that figure?

A Because we have not got sufficient information on area "B" with the lifetime of their wells to really valuate them properly.

Q How long a time have you had on area "B"?

A I will have to, just a minute now, the area produced as a total 1,515,000 as compared to 5,198,000 of area "A" and the length of time, it will just take me a minute, for instance York has two months.

Q As a matter of fact there are wells in there which have been producing two or three years, are there not?

A No.

Q That is the total productive period throughout that area, is two or three years?

A In area "B".

Q Yes.

A No, no.

Q How long it is?

A A year is the longest.

Q Would not the last year be nearly more representative of what you could expect in the future than the past years would be when the field was very badly operated?

A Would you mind saying that again, would you read that question again?

(Reporter reading) "Q. Would not the last year be nearly more representative of what you could expect in the future than the past years would be when the field was very badly operated?"

A May I explain here that the whole of this area was just over two years old, the whole of it.

Q "A" and "B" both?

A 1936. Just a minute now, June of 1936, in the Southern end of the field was the completion of

the Turner Valley Royalties well and then there was not another well completed until the Fall of, December of 1936, which will be just two years from now, the foundation, and the next well was in February 1937, so that outside of one well the whole of the area is under two years, and the great bulk of the area is only one year. That is one of the reasons, my Lord, why it is so difficult to valuate the final answer because of the shortness of time, the lifetime. The dates of completion are given in all these wells in my report. You can check every one, every well has a date when it started. Commoil I think in October 1937.

Q In other words there was over a year on some of those wells?

A Of one well.

Q And there only two years in area "A" anyway?

A That is right.

Q Approximately and by the way and while we are on the subject of these wells I would like to clear up a point concerning Anglo-Canadian, I understand you did not consider that well in your analysis.

A No, we have no record of the production.

Q You knew as a matter of fact that that well was brought in on November 7th and as I remember it you said the reason you did not use it was because it had not been in thirty days.

A No, you see our records are up until October 31st and unless the well has a record of production we

have not taken it into account at all.

Q I was sure of that but I wanted to clear up the point that the well had produced thirty days before this thing started.

A It may have.

Q Whereas it was not included in your report. Now then coming---

A Just here I might say there is no ulterior motive in leaving it out, it was just we didn't have the record.

Q I just wanted to point out it had been in thirty days before the investigation started but it was not included in your report.

A No, that is correct.

Q Although you do have some November pressures in your report.

A I took the last ones I could get.

Q Now in making your estimate of area "B" then, you simply took a horseback figure of the amount of production which has already been produced to-date?

A That is right.

Q And then added area "A's" production to that?

A That is right and I gave the pressure of each, the two areas, the average pressures of the two areas. Area "B" now happens to be on a lower average pressure than the average pressure of area "A".

Q Then you did have the pressures in area "B"?

A Yes.

Q And you also had the gas-oil ratio?

THE CHAIRMAN: I have heard both Dr. Link and you speak of "horseback figures", you mean what thereby?

DR. BOATRIGHT: It is a figure that is grabbed at random as purely, as a pure estimate, merely based on judgment without any support or statistical study.

WITNESS: Of course I do not agree that I used "horseback figures" now, my Lord.

Q DR. BOATRIGHT: Well let us see whether you did or not, you take the figure of the actual amount of production that had occurred up to the time this report was made on area "B", didn't you?

A That is right.

Q And to that you add the estimated production of area "A"?

A And the actual production.

Q Yes.

A And the actual production.

Q Yes, all right, in other words you simply took whatever happened to have been produced out of area "B" without any statistical analysis at all, is that not correct?

A No, just wait a minute, and I can get it for you, on statement 3 and there are two pages to statement 3 page 48 and page 49, the original pressure in area "B" was on the average 2306.7 pounds, and in November it was 1686.8 pounds. the original pressure in area "A" was 1842.9 pounds, so that starting off area "B" from November 1st it starts off with an average lower pressure than

did area "A" when it started.

Q Yes, you have admitted however that the barrel production from area "B" only represents a small part of the reservoir displacement from area "A", doesn't it?

A Quite right.

Q And therefore your pressures even though they were identical would not necessarily represent the same sub-surface condition, would they?

A Oh I would say that they did.

Q All right then, that is a "horseback figure"?

A No, I do not agree with that at all.

Q You assume because the two pressures were within 100 pounds of each other that the reservoir conditions were identical at these two periods of time, didn't you?

A Now, Dr. Boatright, let us take two wells, get back to wells, I took two wells, one is in area "B" and one is in area "A" and they are a quarter of a mile apart and I have the production analysed in area "A" because after all these two areas adjoin throughout their full length and I take it, I take it in detail, a well in area "A".

Q Do these two areas affect each other?

A Oh yes.

Q They do.

A Yes.

Q And area "A" then is affected by the gas-cap?

A Within the limit of the quarter mile which we discussed so fully.

Q And you did not consider that gas-cap in your

estimate?

A May I finish the answer to this question, we have this well in area "A" and I have the pressure on the well and its decline and I can make an estimate of how much oil is left in the groun and I can cross to a well in area "B" and the well in area "B", which started off better than this well in area "A", at a higher pressure, at least it had a higher pressure and I took the additional amount of oil which was produced from this well in area "B" and I added it on to the estimated amount which I had in the well in area "A". Now I do not call that a "horseback figure" at all.

Q Is there any similarity necessarily between those two areas at the same bottom-hole pressures?

A Oh quite similar.

Q What about the gas-oil ratio?

A They vary gradually from the gas-cap until you get down on the flank.

Q And they are six to one as a matter of fact from "B" to "A"?

A Yes, but if I like to take a well from the east side of area "A" and a well on the very west side, outside of the area "B" altogether, I can make that difference more than six to one.

Q But you did not as a matter of fact. You took them in the centre because you took averages?

A I took averages.

Q Then you did not take one out on the east flank and one on the west, you took them right down the middle line of the two sections?

A After all we get barrels of oil in the tank and we get the average from all and you also get gas in the air, we are getting a lot of it.

Q And that gas in the air occupies space, the same as the oil does?

A Dr. Boatright, what we are really concerned with is getting this oil out of the ground.

Q I realize that but the question was, the gas in the reservoir occupies space, doesn't it?

A That is right.

Q And in one case we have six times as much coming out with a barrel of oil as in the other case.

A Wait a minute, it also brings oil to the hole.

Q We realize that, nevertheless the question is you have six times as much gas in the formation in one as in the other, therefore even although the bottom-hole pressures were identical it would not mean that the two producing conditions of the wells were identical, would it?

A No two wells are identical.

Q In other words that basis was wrong then?

A No, it was not wrong.

Q It was a "horseback figure", was it not ?

A No I do not agree with that either.

Q Why did you divide the two areas into an "A" and "B"?

A Because one is higher pressure than the other.

Q And because the conditions in the two are different?

A They are slightly different in, such as the gas-oil ratio is better in one than it is in the other.

Q Therefore---

A Wait a minute now until I finish, and there was not a long enough lifetime in the well. Two months in the, what could I do with an average of two months, what could anybody do with a two month's figure on York for instance, to come to a figure which is anywhere reasonable?

Q Did you use any wells which had been in two months in area "A"?

A I estimated two wells that were in, that I only had one month's record of.

Q You estimated those?

A I estimated those.

Q In area "A"?

A Yes.

Q Why, if you could draw conclusions from area "A" why couldn't you draw conclusions from area "B"?

A Well we had the records of the gas-oil ratios and records all around those wells.

Q But you estimated two wells and included them in your estimate of "A"?

A That is right.

Q Why couldn't you take the actual figures in area "B" for two months?

A Well I gave those two wells 9,000 barrels an acre which I thought was away up, the top figure. I do not think they will do it. I do not think they will do anything like it, just so that brings up that general average of the amount of oil left in the ground still higher.

Q Explain then to us why did not you take the gas-oil ratios in area "B" and calculate on that basis just

the same as you did in area "A"?

A I did not think there was enough information yet to do it on.

Q But yet there is over a year's information and in area "A" you used wells which were estimated for one month and still you say you did not have enough information in area "B".

A We had three oldest wells in area "A", two of which we did not have, which I estimated. In area "B" we have 22 wells, one of which has a year's lifetime.

Q But the fact remains however that you had a number of wells in area "B", as a matter of fact, how many?

A Twenty-two.

Q And you had a period of production of, an approximate period of production, how much would you say the average productive life of area "B" has been?

A I will read the well and the length of lifetime; York 2 months; Vulcan Brown 5 months; United 5 5 months; Sunset 2, 2 months; Sunset 1, 11 months; Sundance 6 months; Royal Canadian 11 months; Royal Canadian 2, 1 month; Royalite 30, 5 months; Thirty-two 3 months; Thirty-one 3 months; Richwell one month; Prairie, that is another well with 13 months; Commoil and Prairie are alike. I am sorry to take so long, my Lord.

THE CHAIRMAN: That is all right.

MAJOR LIPSETT: Mr. Davies, are they not all in your statement on page 48?

WITNESS: The dates of completion, they are

all in there but the dates of completion.

Q MAJOR LIPSETT: That is there too I think.

A Maybe it is, on page 48.

DR. BOATRIGHT: Mr. Davies, it will not be necessary---

WITNESS: That is quite right, thank you very much indeed.

Q MAJOR LIPSETT: There is just one other point on that, you mentioned 22 wells, I see there are 23 on that statement.

A Yes, one has a bottom-hole pressure in there but there is no record. I have the bottom-hole pressure but there is no record of production. West-flank No. 3. It has been affected by Royalite No. 30, and I put it in there so that I would have the actual figures. I got down to Vulcan Brown. I can read them now.

Q All right.

A June, the dates of completion, Vulcan Brown, June 1938; Royalite 33, September; Royalite 30, July; Commoil, October, 1937; Commoil 2 August, 1938; Globe, July 1938; Royalite 31, August 1938; Davies No. 1, April 1938; Royal Canadian No. 1, December 1937; Consolidated October 1938; Sunset 1, December 1937; Sunset 2, September 1938; York October 1938; United Brown June 1938; Prairie October 1937; Coronation, July 1938; Sundance, May 1938; Brown-5 October 1938; Richwell October 1938; Royalite No.32 August 1938; Royal Canadian No. 2, October 1938; National No. 2, May 1938; West Turner is not in it.

Q In other words there are several wells

in there, four or five probably, that are at least around a year old?

A There are two wells that are thirteen months.

Q And there are two wells eleven months?

A The rest of them---

Q That is four or five wells out of the twenty?

A There are four exactly, there are four that we have some history of.

Q In other words you only have a two year's life of area "A" and you have something over a year's life in area "B" and still you have the bottom-hole pressures in both areas, you have the gas-oil ratios in both areas, and you have admitted that the oil in the rest of the reservoir will probably be more nearly like area "B" than area "A", you have admitted that the gas-oil ratio in area "B" will only be approximately one-sixth of that of area "A" and you have admitted that the area "B" sub-surface condition, at a given pressure will be above that from that of area "A" at the same pressure?

A What is that again.

Q You have admitted that the bottom-hole conditions in a well in area "B" under a given bottom-hole pressure will be different than the sub-surface conditions in a well in area "A", under exactly the same bottom-hole pressure?

A I don't think I admitted that.

Q Didn't you just finish saying that in two wells where the same, with a given bottom-hole pressure?

A You say that.

Q Is that not exactly what you say?

A No, you were just blanketing two whole areas, if you will just repeat what I said in the answer I am quite agreeable to that.

Q Then the bottom-hole pressures are the same in a well in area "A" and in a well in area "B", if that is so then the sub-surface condition will not certainly be analogous, will it?

A Oh no.

Q On that basis though you took the present production out of area "B" and you tell me it is not a "horseback figure".

A Quite true.

Q Well we have a slight difference of opinion on that particular point. If you had taken the gas-oil ratio in area "B" at one-sixth that of area "A", that would then have made your oil reserves six times as great as those you actually got, would it not?

A Now wait a minute, if I had taken the gas-oil ratios of area "A" than that I find of area "B"---

Q Yes.

A But I didn't find them that way.

Q You found that area "B" had one-sixth of the gas-oil ratio that area "A" had?

A You will remember that area "A", that is averaging the whole area.

Q Yes, and averaging the whole area "B".

A Now you see I didn't do that.

Q You told me yesterday you did.

A That I which?

Q That you had averaged the gas-oil ratios in both areas and you determined that one was about---

A You asked me to do that for you.

Q Yes, and you did it.

A Oh but wait a minute---

Q You found one six times the other.

A Yes, but I didn't work out the reserves on taking an average figure over those two areas.

Q No, I am not asking you to, we are staying strictly to areas "A" and "B", now you take area "A".

A Yes.

Q And determine the amount, the average amount of gas in effect, the average amount of gas that still remainedin that area?

A In each well?

Q In each well.

A Yes.

Q In other words adding them all up, so on the average that represents the total amount of gas which would be left in area "A"?

A Yes, but don't get away---

Q It is the average, is it not?

A That is right, but I want to be sure, it is each well.

Q Determined separately and then added together, the weighted average. In arriving at your figure of 6555 barrels then over area "A" you took the weighted average amount of gas still remaining in the ground and determined by the rates of bottom-hole pressure.

A Yes,

Q Of which one pressure you were not so sure and then dividing that quantity of gas by the weighted gas-oil ratios at the individual wells, to determine the reserves of 6555 barrels?

A I am not sure that I understand you but I will tell you what I did. It is all right in front of me here. I took each well separate and I worked out the quantity of natural gas, I took the volume of what had been produced and then I took the October, I took the pressure drop, as it has been so fully discussed this morning, and found the volume of natural gas left in the ground, in each well, and then I divided that figure by the October gas-oil ratio for each well.

Q Now we understand now that it is for each well and when I say weighted average, that is exactly what it refers to.

A Well we will---

Q Now then if we had taken the weighted gas-oil ratio, one-sixth of that, what would it have done to your estimated reserves in area "A"?

A It would make the restimated reserves in the ground six times as large.

Q All right, let us multiply that out and see what you get.

A In other words I am going to take now, this is a new figure which we have coined out of the air and has no relation to the wells down there.

Q We have coinded out a figure taken from your report.

A In area "A".

Q Yes, and your testimony.

A One-sixth of the gas-oil ratio, I am to take six times the actual gas-oil ratios?

Q You are to take one-sixth, or what you are to do now is to multiply 6555 by six.

A Well I can do that in my head because that is quite different.

Q What would it be?

A Roughly 36,000.

Q Maybe you had better multiply it out.

A 39,000.

Q 39,660 is it not?

A 39,330.

Q All right, it is almost 40,000 barrels and that is the figure which you would have gotten in area "A" had the gas-oil ratio been one-sixth of what it was, is that not correct?

A No. Now wait a minute, you are jumping too fast, I have told you that in area "B" there is no sufficient information to make an accurate estimate.

Q All I asked you was a theoretical question, I didn't mention area "B", what I said was this, if the average gas-oil ratio in area "A" had been one-sixth of what you took, then you would have had approximately 40,000 barrels per acre on the basis of your own rate of calculation?

A All right. I see what you mean.

Q Is that correct?

A 39,330.

Q Now then how many acres then were in area "A"?

A 1670.

Q All right, that represents how many barrels of oil for that acreage, here is what I want you to do, I want you to get the weighted averages as you do in your report to these two areas under the assumption that one is 40,000 barrels to the acre and the other is 6555, I want you to weight that figure as you did in your report under the assumption that there is 40,000 barrels per acre in area "B".

A Now we are assuming, all right, you want total barrels per acre, you are assuming 40,000 barrels in area "B" and 6555 in area "A".

Q Yes.

A I think the figure I had was a little, it doesn't make much difference but it was 6200 and something in area "A".

Q Take your exact figure, I believe it was 6200 and something and the other 1040.

A You want me to take the exact production figure I got?

Q There are no production figures at all, I want you to take the area and multiply it by the 40,000 which you have gotten if you do assume that the gas-oil ratio was one-sixth of what it was in area "A".

A I will take, see if I have done this right, take 1670 acres and multiply it by 40,000, you get 66,800,000 and I take 1080 barrels and I multiply by 40,000.

Q By what?

A By 40,000.

Q What did you multiply in the first instance?

A 40,000.

Q You use 40,000 in both of them?

A Yes.

Q No, I want you to use 40,000 in area "B".

A All right.

Q And 6555 in area "A".

A Oh that is different. I think this is right, 10,946,850 barrels.

Q That was obtained by multiplying those two figures?

A That was obtained by multiplying the two figures 1670 by 6555.

Q That is right, and what was the other figure?

A 43,400,000.

Q And that was obtained by doing what?

A Multiplying 1085 by 40,000.

Q Then if we add those two figures together now and divide by the sum of those two acreages.

A 54,346,850.

Q And then divide.

A That divided by 2755 gives say 19,700 and something.

Q In other words approximately20,000 barrels per acre, is it not?

A Yes.

Q Then if my assumption is correct, that would have been the average instead of the figure you obtained of 6555, would it not?

A Oh, if your figures were correct, your assumption

were correct I presume it would be.

Q As a matter of fact, the gas-oil ratio average in area "B" is one-sixth that of area "A", is it not, during the month of October?

A That is the whole average, that is not considering individual wells at all.

Q DR. BOATRIGHT: That is right, and that is all.

THE CHAIRMAN: Anything more from you, Mr. Frawley?

MR. FRAWLEY: Yes, and perhaps I had better ask it, I have a question or two.

THE CHAIRMAN: Very well but just now we will rise for a few moments.

(An adjournment of five minutes was here taken)

TO MR. FRAWLEY:

Q Mr. Davies, I just want to file a couple of maps with you and then just ask you about one question. This is the map which accompanies your report and there has been charted on there producing and drilling wells, will you just check it over.

A I think they are correct.

Q Dr. Link looked at it and I think he had no question about it as I recall.

A Yes.

Q This had better be marked separately.

THE CHAIRMAN: What is it?

MR. FRAWLEY: It is Mr. Davies' map which accompanied his report.

THE CHAIRMAN: Marked separately.

MR. FRAWLEY: No. This is the map which

[illegible]

Q [illegible]

A [illegible]

Q [illegible]

[illegible]

MR. [illegible]

[illegible]

MR. [illegible]

[illegible]

Q [illegible]

[illegible]

A [illegible]

Q [illegible]

[illegible]

Yes.

Q [illegible]

MR. CONNOLLY: [illegible]

MR. [illegible]: [illegible]

accompanied Mr. Davies' report and there have been super-imposed upon that map the producing crude wells shown in black and the drilling wells shown in red.

THE CHAIRMAN: Drilling wells?

MR. FRAWLEY: The wells in the drilling are shown in red.

MAP PRODUCED HERE MARKED EXHIBIT 23.

Q MR. FRAWLEY: The wells now drilling are shown in red and the producing, the wells actually producing, are shown in black. You will remember the witness said he had not, for his purposes, shown any of the wells either producing or drilling and we have super-imposed that upon the map. Now that is the same map that you have produced.

THE CHAIRMAN: Mr. Davies, as part of his exhibit, have you any more maps.

A Yes, we have any number.

Q MR. FRAWLEY: If you will give that to us then we will make duplicates of this. Perhaps I should call your attention now to where these producing wells are and particularly such of them as lie outside Mr. Davies, either area "A" or area "B". Anglo-Canadian, Command, Producers Crude, West Turner. Of course Home-Millarville is not in here. It is to the north and then the producing wells, I will call your attention to again, outside of areas "A" and "B". Now I show you another map, Mr. Davies, which has been prepared at my request and Mr. Link has also seen it. It is a map to show the Royalite producing wells and the Royalite drilling wells and

would you look at it and the, this map perhaps is not very important, it is a map of Southern Turner Valley.

A Dr. Link might know that it was but I would not know.

Q It has already been shown to Dr. Link.

DR. LINK: We call that well Royalite 30, Royalite 30, but it is not our well. We drilled it for the people and also Royalite 36, we did it for so much and we have an interest in it, but it does not belong to us.

Q To meet Dr. Link's objection, although it shows Royalite 36 and Royalite 30, we have amended our map to show that Royalite 36 is a Shamrock's Oil lease and Royalite 30 is on an Anaconda oil lease.

MR. NOLAN: How about 31?

DR. LINK: 31 is a Mutual.

MR. FRAWLEY: Yes, I suppose at some time we will have to know something more in detail about these leases. Perhaps it would serve our purpose at the moment to mark this.

DR. LINK: Yes.

THE CHAIRMAN: These three are not owned by the Imperial.

DR. LINK: The Imperial does not own the lease on which they are. We have agreed in some cases on a sixty-forty basis to drill the hole. We get our money back as soon as the production starts and then it is divided sixty-forty.

MR. FRAWLEY: Were either the holes commenced before you assumed your interest or was your interest

there from the beginning of the drilling?

DR. LINK: In some cases we took over. In these cases we started then right from the beginning.

MR. FRAWLEY: These are the only three you object to?

DR. LINK: Yes.

THE CHAIRMAN: Will you admit the document as a map, as being correct, Mr. Nolan?

MR. NOLAN: Yes we do.

THE CHAIRMAN: Then we will mark it as exhibit 24.

MR. FRAWLEY: Of course I would like to oblige my friend and make that further notation on it. Do you want the same notation on 31?

DR. LINK: Yes.

MR. FRAWLEY: Lease from Mutual

DR. LINK: Yes.

MR. NOLAN: My suggestion would be that it be marked now as an exhibit and be amended by these gentlemen and brought up-to-date.

THE CHAIRMAN: Yes.

MR. NOLAN: There seems to be some doubt about 31. However that can be found out.

THE CHAIRMAN: If they amended under Dr. Link's direction that should be all right.

MR. NOLAN: Yes, My Lord.

THE CHAIRMAN: All right then, that map will be received in its present form. It is now changed as Dr. Link says he thinks it should be changed and in its present form it will be received as exhibit 24.

MAP PRODUCED HERE MARKED
AS EXHIBIT 24.

THE CHAIRMAN: Now I suppose it will be possible to get copies of these.

MR. FRAWLEY: Yes my Lord, we will have copies prepared.

DR. LINK: Royalite 38 is a northwest limited well, being drilled jointly.

MR. NOLAN: There seems to be some doubt, Mr. Chairman, about one or two of the wells. I wonder if my suggestion could be carried out of letting us have this and bringing it up-to-date with the proper annotations upon it but retaining the same exhibit number which it has received.

THE CHAIRMAN: Yes, I should think there would be no objection to that, Mr. Frawley.

MR. FRAWLEY: No, anything of that kind is quite all right.

THE CHAIRMAN: May we ask, gentlemen, is it possible when you are doing it, to have the color of "A" and "B" shown?

MR. FRAWLEY: Yes, we are going to do that on a separate map because Dr. Link has given me one this morning with the Royalite leases on it and I am now going to ask if the Doctor would be good enough on the same map to chart Mr. Davies' areas "A" and "B".

THE CHAIRMAN: Would that be possible?

MR. NOLAN: Oh yes, my Lord, we can do that.

MR. FRAWLEY: And the wells, Mr. Nolan, and then we will have something worth while in my estimation.

MR. NOLAN: What do you mean, all the wells in areas "A" and "B"?

THE CHAIRMAN: You mean a combination of these two maps?

MR. FRAWLEY: Yes, of this map which is a very large map, there should be charted on it Mr. Davies' areas "A" and "B" and the actual wells, as I have submitted there, the producing wells, and the drilling wells as of to this date, all chartered on that map and then one further thing, a notation marked on the map of the acreage which has been abandoned by the Royalite Oil Company. As a matter of fact rather than do it now I will see Mr. Nolan and we will see that the map meets with the approval of all concerned.

THE CHAIRMAN: Yes, such a comprehensive map ought to be very beneficial and no doubt you and Mr. Nolan can agree as to what should be on it.

Q MR. FRAWLEY; Now Mr. Davies, you said a day or so ago in answer to the chairman and very properly, that the opinions you were expressing here were your own opinions.

A Quite so.

Q The fact is that I called you to the stand, you will also remember so there will be no misunderstanding about the situation, you were retained by the Royalite Oil Company to make this report.

A Yes.

Q And to give this evidence.

A That is correct, and told that, go and get my own figures, to be absolutely independent in my judgment.

Q Yes.

A Clearly.

Q I would assume that but to have it on the record, I would assume that but having been retained by the Royalite Oil Company you did make a report?

A Yes.

Q And before the report was used by you as a witness it was submitted I presume to the Royalite Oil Company?

A No it was not.

Q It was not discussed withthe Royalite Company at all?

A No.

Q Nor was it approved by the Royalite Oil Company at all?

A No.

Q THE CHAIRMAN: Did you not give a copy to the Royalite?

A No, I brought all the copies down here on Monday morning.

Q MR. FRAWLEY: So that it will be abundantly clear, because I want it as clear as it can be made, You had no consultation with any official of the Royalite Oil Company at all?

A Oh I got all the geology from Dr. Link.

Q Quite.

A And part of Dr. Link's staff went to the government offices and got the figures.

Q Just so, how far can we go. I may be quite wrong or I may be partly right, so the situation is, before

you took the stand and was sworn to give your evidence here, nobody in the Royalite Oil Company new anything of what your evidence was going to be and what your estimate of these reserves was going to be.

A No, I do not think a soul, I don't even believe Dr. Link knew.

Q Dr. Link had not seen your areas "A" and "B".

A Oh yes.

Q Oh.

A That was drafted in their office.

Q Oh well your areas "A" and "B" are just about the meat of your report, is it not.

A I would not think so but you may.

Q Anyway that is a matter of opinion, your areas "A" and "B", that map was actually drawn in the Royalite office.

A That is routine.

Q So that Dr. Link knew all about your areas "A" and "B"?

A Yes, and I say so in my report, that I took the area "A" from Dr. Link's report.

Q And other officials in the offices of the Royalite Company knew about your maps areas "A" and "B"?

A Well they may have been told. I do not know whether Mr. Burns was told or not. I am pretty sure Mr. McLeod did not know a thing about it because I do not think I saw Mr. McLeod at all.

Q Or the Company's counsel, I suppose the Company's counsel knew about the report.

A I do not believe I discussed this thing with you,

Mr. Nolan, at all.

Q You see what I mean, I want to know whether this is the Royalite Oil Company, that is where it belongs.

A No, it is Stanley J. Davies, as it is, it is my report and my opinions, my methods and not theirs.

Q Oh quite, but Dr. Link knew of your submission such as it was as is contained or such as appears from the map which you made, of areas "A" and "B".

A Yes.

Q And he knew the acreage which you were reciting?

A Yes, we worked together on that.

Q He knew the per acre recovery?

A No, that is what he didn't know.

Q He did not know the per acre recovery?

A No.

Q Then you must have put something on the map then, unless I am mistaken, the acreage is on.

A The acres are on there.

Q Yes, well this little chart here, barren, so many acres, possible, so many acres, I had better read it for the record, barren 309.59 acres; possible 3254.27 acres; and proven 3623.14 acres. Dr. Link, in other words, let me put it this way, Dr. Link saw that map completed.

A Oh yes, this map.

Q With all of those acres which I have read?

A And in addition 202 acres, in the North end, and

Q these 666 acres which included all this area sut here.

Q This 666 is not going to help very much. 666 acres where?

A It included where these wells in this additional area "B" down to the contour line, now I will have to get that from Dr. Link because that is where I got it, it is on that other map.

Q Is it unfair to say then that the preparation of that map, the data which you obtained, was the joint effort of yourself and Dr. Link?

A This is, yes.

Q That is fine and the greater portion---

THE CHAIRMAN: You are speaking of Exhibit "23" now?

MR. FRAWLEY: Well without my superimposing on it.

THE CHAIRMAN: Yes, you are speaking of this map which is the map associated with your report.

WITNESS: Yes my Lord.

Q THE CHAIRMAN: Without the marking of the wells upon it.

A That is correct.

Q MR. FRAWLEY: Now Mr. Davies, I think you told me the other day that you used the figure of, was it 5,000,000 or 5½ million, as the annual throughput of the pipeline.

A 5½ million.

Q And that ~~would mean a gross revenue~~ of about $825,000.

A You are getting into something I do not remember.

Q It is a simple calculation, just times 15, I am told it is either exactly or about $825,000.

A May I multiply it.

Q Yes.

A $825,000.

Q Which would be the total gross revenue to the Royalite Oil Company from the pipeline?

A That again----

Q At 15¢?

A At 15¢.

Q And at 5½ million gallons?

A Yes.

Q Now you appreciate of course the effect of your evidence in giving this field a definite life of two and possibly a life of three, on the two-year basis they have to get back and, oh, I don't know whether you know, perhaps you will be good enough to assume with me that the capital investment in the Royalite pipeline is about a million and a half, somewhere between a million and a million and a half.

A I have no knowledge myself.

Q No definite knowledge?

A No.

Q If you will assume with me that it is somewhere in around that figure.

A A million and a half?

Q That means simply that they have to use for the amortization purposes around $750.000 per annum?

A That is correct.

Q And we have been getting in a gross of $825,000 and setting aside for amortization purposes $750,000 on my assumption, that follows, doesn't it, and if the revenue went down to, if the gallonage dropped to 5,000,000 or if the pipeline

rates dropped at all, if the gross volume dropped to 5,000,000, then they would use all of their revenue, the complete gross revenue, to amortize theline and they would not have a dollar for operating costs.

MR. NOLAN: Don't you think that should be left to the accountants to discuss?

THE CHAIRMAN: Well Mr. Davies does not know. There is no objection to the question but the fact is the witness cannot answer.

WITNESS: I cannot answer my Lord.

MR. FRAWLEY: He cannot answer because he does not know the capital invested in the Royalite pipeline, that is quite true. Now I do not want Mr. Davies coming back from time to time and I am asking him to assume with me, my learned friend will know whether it is a million and a half, I am putting it that it is a million and a half.

THE CHAIRMAN: The rest is just arithmetic, you know.

MR. FRAWLEYL Yes.

THE CHAIRMAN: While I have not intervened, Mr. Davies has been called upon to do a great deal of arithmetic which perhaps he might not have had to do.

MR. FRAWLEY: I can assure you we appreciate it you did give us a lot of time for cross-examination of Mr. Davies and I think I can say that there always seemed to be, with respect, some reason for his doing these problems.

THE CHAIRMAN: Yes I think so. It is just a question, the only point is that you perhaps should

have to do your own figuring and then you can put it to him to verify but that is beside the point. Mr. Davies did it very willingly and he and Dr. Boatright got along very well. There was no trouble about that but I am just suggesting now that this witness at this moment, it is futile to pursue that line because he cannot give the answers.

MR. FRAWLEY: All right.

MR. NOLAN: I am not certain that Mr. Davies' report has been marked as an exhibit, I just wonder if anyone knows whether it had or not.

THE CHAIRMAN: Yes, it is Exhibit "19".

MR. FRAWLEY: That is all, Mr. Davies.

THE CHAIRMAN: Mr. Frawley, at this stage in the course of Mr. Davies' examination, some document was referred to as having come from the King's Printer.

MR. FRAWLEY: Yes my Lord. I am very happy to present to the commission a very beautiful copy of this Banking and Commerce report of 1932 and I want to say that it is a little more than the actual minutes of proceedings and evidence but I cannot do anything about that. In addition there is a certain discussion in the House of Commons which preceded the minutes and then it contained some press editorials compiled by the Imperial Oil Company and as to that---

THE CHAIRMAN: What part are you offering?

MR. FRAWLEY: Well perhaps that is the thing to do, to offer a certain part of it.

THE CHAIRMAN: Quite so.

MR. FRAWLEY: I am offering that part of this volume which is entitled "The Minutes of Proceedings and Evidence, Select Standing Committee on Banking and Commerce, Reference, Price of Gasoline", printed by the King's Printer at Ottawa, 1932. This is as of the session of 1932 and that runs through to the end. What it is, it is part three, that is precisely what it is, it is part three of this document and perhaps that is the better way to describe it, part three of the document, part three of this book.

THE CHAIRMAN: Exhibit "25" then is part three of a book described as what.

MR. FRAWLEY: Described as the gasoline investigation, 1932, that is the name of the book, Gasoline Investigation, 1932.

THE CHAIRMAN: And that book is printed by the King's Printer.

MR. FRAWLEY: He is responsible for that part of it which I am offering.

THE CHAIRMAN: Yes, that is what I want.

(Minutes of proceedings and evidnace, re gasoline investigation, 1932, here marked as EXHIBIT "25")

MR. FRAWLEY: Then there is in it as Part four, perhaps I should call your attention to it, there is an index compiled by the Imperial Oil Limited and I do not see why you should not look at it if you wish.

THE CHAIRMAN: As a matter of convenience it may

be used.

MR. FRAWLEY: Yes.

THE CHAIRMAN: We are not worried about---

MR. FRAWLEY: Being contaminated.

THE CHAIRMAN: Yes. If we see some other part we will see that it does not do us any harm.

MR. NOLAN: That part will not be incorporated in the record.

THE CHAIRMAN: I do not know as I understand what you mean.

MR. NOLAN: There is quite a question in that, it will not be incorporated in the record.

THE CHAIRMAN: Once a document is made an exhibit there can be no question that anyone seeking a copy of the transcript is entitled to get a copy of the exhibit.

MR. NOLAN: I quite understand that.

THE CHAIRMAN: I mean, we are not requiring it to be transcribed for us but the point is that we can not say the exhibit is not to be disseminated amongst those who wish to pay for it. We cannot give that assurance because being an exhibit why it is the property of those who pay the reporters. However in this case I think it would be easier for them to get the book. All right Mr. Frawley.

MR. FRAWLEY: I will call Dr. Boatright in reply.

DR. BYRON.B. BOATRIGHT, having been recalled, examined by Mr. Trawley, said:-

Q Dr. Boatright, you are still under oath?

A Yes.

Q Now I would like you to deal in reply with Dr. Link's evidence first and then Mr. Davies' evidence. Dealing first with Dr. Link's evidence, what have you to say as to how Dr. Link's evidence checks with yours as to area, as to geology and as to such things as the presence or absence of water-drive, will you deal with that?

A As far as the geology is concerned and indicated by our respective structural contour lines on our map of the Turner Valley area, I agree with Mr. Link's statement that the two are almost identical. In my estimate I used 10,000 acres as being probable productive and a total of 15,000 acres as being possible productive. I did not make any attempts to astimate the reserves based only upon the area proven by the actual wells that are drilled., In arriving at these figures I took the gas-oil contact line as occurring at the 2000 foot contour level, and the area I assigned to the gas cap was 10,000 acres. Mr. Link took the 1700 foot contour as marking the gas-oil contact and assigned something over 7000 acres to the gas cap. I believe that Mr. Link assigned 3933 acres to the area which is definitely proved by the wells already drilled. As the possibly productive area he took the area between the 1700 foot contour line and the 4500 foot contour line, a total area of about 17,187 acres. Correlating

his so-called possible acreage with what I call probable acreage, he assigned approximately 2,187 additional acres over the 15000, or over the 10,000 acres, assigned by me to probable acreage. The difference, of course, occurs by virtue of the fact that the area included in my probable area extended from the 2000 foot contour line to the 4000 foot contour line, whereas his possible acreage extended from the 1700 foot contour line to the 4500 foot contour line, and the 2187 acres directly represents the area contained between the 1700 foot contour line and the 2000 foot contour line. I believe that our ideas of the structure coincide fairly closely.

Pardon me, did your question include anything else?

Q I asked you whether your views coincided with his with respect to the presence or absence of the water-drive?

A Yes, they do.

Q Now will you go to the question of porosity, Dr. Boatright, and tell me how yours works out as compared with his and what comment you care to make on his?

A Mr. Link stated, there had been very few actual porosity determinations made in the Turner Valley field. As a matter of fact, I think only one well, Spy Hill No. 1 has been cored. Results of that porisity examination on that core gives the following figures:- The depth at which the sample was taken, 6,940 feet, porosity determined in the laboratory by one of the recognized methods amounted to 8.6 %; a sample taken at 6,961 had a porosity of 9.1%; a sample taken at 6,972 showed a porosity of 11.3%; a sample takem at 6,978 showed a porosity of 14.7%; a sample taken at 6,984 had a

porosity of 10.2%;, a sample taken at 6,996 had a porosity of 8.5%; a sample taken at 7001 showed a porosity of 3.1%, and a sample taken at 7,018 showed a porosity of 11.2%. That is a total porous section of 78 feet with average porosity of 9.6% which is equivalent to saying that that porosity represents a total void space approximately 7½ feet thick. So far as I have been able to obtain any information from the records of the Petroleum and Natural Gas Division, that is the only actual porosity measurements which have been made in the Turner Valley field. The balance of the porosity measurements have been made primarily on the basis of the judgment of individuals who examined the small cuttings which came out of the hole during drilling. My estimate of an 8 foot porous section was based upon the records from 61 wells. The porosity estimates were made from all the cuttings of those wells by one individual in the Petroleum and Natural Gas Division. The total thickness of sections showing any porosity at all was listed, and porosities were estimated from his analyses of those cuttings. The porosity for the average section was determined by taking his estimate of the porisity of each one of these little sections, and weighing the average of all the sections, giving the average porosity for 170 foot section of about 5%. This figure of 5% multiplied by the 170 feet within that average porosity of 5%, results in a void space of 8 feet. That average void space of 8 feet represents an average of 61 wells. That figure of 8 feet was used in my calculations of reserves. That figure was borne out by Mr.Link directly in this way. Mr. Link differed from

my estimate of 170 feet of porosity. He gave his estimate of 50 feet but admitted that it was not based upon a statistical study. It was merely his estimate of what that thickness was. You realize, of course, that the thickness assigned to porosity will depend upon what porosity limits are chosen, because if we take all of the limits between maximum porosity and zero porosity we would have the total thickness of the bed as being our porous section, and theoretically, as a matter of fact all of that lime does have a small amount of porosity. There is bound to be a wide variation in any thickness estimate insofar as the porosity section is concerned. Mr. Link, however, in his discussion of his thickness assigned a figure of 8% to the porosity of that 50 foot section, which was saturated with oil 8% times 50 feet, a gas-oil saturated section of approximately four feet. In my calculation of reserves I used a total void section of 8 feet, but I multiplied that by what I call the formation factor which took into consideration the amount of gas in solution in the oil, the amount of space occupied by the compressed gas in the formation and the gas in solution. Now oil is a condensate. This formation factor that I used amounted to 45% which was equivalent to stating that my oil saturated section amounted to 4½ feet of void space on the average throughout the field. In my statement of the porous section I also showed calculations based upon a calculated original bottom hole pressure in the gas-cap, using a figure of 36 pounds per 100 foot depth below an elevation of 4000 feet above sea level, and I took the actual amount of gas as taken from authoritative records produced up to

the first of 1938, I took the bottom h le pressure existing in the gas cap area at that time, and that pressure was the weighted average pressure which agreed fairly closely with figures given by both Mr.Davies and Mr.Link. That calculation showed that there was 170,000 barrels of space per acre in the gas cap area. Using the figure 4½ feet of void space, I calculated 62,000 barrels of, total barrels of oil per acre, or in other words there would be 62,000 barrels of space under each acre of ground in the oil area, that is of a total 8 foot section. I am sorry, I said 4½, but it actually is the 8 foot section that contained 62,000 and some odd hundred barrels of space. The gas calculations showed 170,000 barrels of space, which is equivalent to saying that the porous section in the gas cap is approximately three times as porous as the figure which I used in my estimate.

You will remember in my cross -examination of Mr. Davies, and using his figure of 6,555 barrels of oil per acre, and the gas that came along with that oil and calculating the actual space occupied by that mixture of gas and oil underground, it showed that in his area he had about 60,000 barrels of porous space. His estimates, of course, were based or certain statistics which were obtained either from the Royalite Company or from the Government. Using Mr. Davies own figures and taking into consideration the differences in gas-oil ratios between his areas "A" and "B", and upon the basis of that assumption, calculating the actual amount of oil in place over the average of his areas "A" and "B", gave the figure of approximately 19,700 barrels per acre.

In my calculation using the figure 62,000 barrels per acrem total space under each well I arrived at a production figure for each acre of 17,000 barrels. With regard to Mr. Link's porosity he admitted, I believe, that that was merely a horseback figure, that it was based upon a casual perusal of the records without actually making a statistical study of those records. He said, I believe, that the records were available and that such a statistical study could be made, but I believe I am correct in saying that he did not make such a study in arriving at a 50 foot section with an average of 8% porosity.

Q Yes, now that does then explain the difference between your figures and his as to the producing thickness?

A Yes.

Q Now will you tell me this, does drilling speed, is drilling speed necessarily any criterion of porosity?

A It is certainly not a definite criterion. It may be influenced by porisity but there are certainly a great number of other factors which are just as important. To name a few, the weight which is carried on the bit, the type of mud, the amount of circulation per hour which is occurring during the cutting, the type of bit which is used, the speed of rotation, the crookedness of the hole, all these factors enter into drilling speed, and while porosity may effect it to a certain extent, it is certainly not a criterion for an evaluation study of porosity.

Q Now, will you tell me if the dry holes along the West flank preclude the possibility of oil being found further West?

A In my estimation they do not. I believe that Commoil No. 1 was the further North well which was cited as definitely proven to be a dry hole, and there is approximately two and a half miles between that well and Home-Millarville No. 2, which incidentally was not considered in either Mr. Link's or Mr. Davies' estimate.

Q Calmont you mean?

A Yes, I am sorry, Calmont No. 1.

THE CHAIRMAN: Is it Calmont No. 1?

Q MR. FRAWLEY: Just repeat the statement again. You say Calmont No. 1, Calmont Nol 1 which is the furthest North.

THE CHAIRMAN: The witness may be mistaken as to the name.

MR. FRAWLEY: Yes, that is it.

THE CHAIRMAN: What is the right name?

WITNESS: Dalhousie 8, I think, I thought it was Commoil.

THE CHAIRMAN: You might just check that during the adjournment, I think we will rise now.

(The Investigation was here adjourned, and resumed at 2 P.M.)

.....

2 P.M. Session.

Examination of Dr. Boatright continued by Mr. Frawley:

Q MR. FRAWLEY: In your opinion, do the dry holes on the West flank preclude the possibility of oil being found further West, and you will remember we were confused with the name of the well.

A The name I had in mind was Calmont No. 1 which is located in Section 1, Township 20, and which was a well with very low porisity and which I understand made some small production of both gas and naphtha. That well is located approximately 6 miles from the North end of the field and in that whole 6 miles there has been no dry holes within the structural oil confine. I might add to that answer that there had been no dry holes drilled to the West of the gas-oil contact line if that line is assumed to be at either 1700 or 2000 foot elevation on top of the lime. Brown No. 3 which was cited as one of the criteria for disregarding the Western area was a well that admittedly had trouble in completion. Furthermore, there are several instances throughout the field where wells encountered low porosity, have low initial production and low expected recoveries, but which are surrounded by commercially valuable wells. In other words, even though the various wells such as Dalhousie 8 and Brown No. 3 completely lack productive porosity, it still would not necessarily condemn the field to the West. I believe that answer is correct.

Q Now, Dr. Boatright, upon what wells was Dr. Link's estimate of reserves based?

A I believe that there were four wells upon which he based his estimate.

Q And will you locate them on the peg model as well as on the map, you call them and I will endeavour to find them?

A Turner Valley Royalties No. 1 is in the NorthWest Quarter of Section 28.

Q In the North West quarter of Section 28?

A That is correct. B. & B. Brown 1 .....

Q Now, just a minute, Turner Valley Royalties you say first in the NorthWest of 28?

A That is correct.

Q There it is. Now where is it with respect to what you call the gas-oil contact line, or the gas areas "A" and "B"?

A That is just slightly to the West of that line.

Q Of the gas-oil contact line?

A That is right.

Q And it is in area?

A "A".

Q Area "A"?

A Of Mr.Davies' map.

Q Now the next one?

A Is B. & B.

Q Thatis in the same section?

A Yes.

Q Southerly to Turner Valley Royalties?

A That is correct.

Q And where is it with respect to the 2000 foot contour line?

A Just to the West of the Gas-oil contact and in area "A" of Mr. Davies' map.

Q Next?

A The next one is Sterling-Pacific No. 3 which is located in the North West Quarter of Section 3.

Q Sterling-Pacific numbered?

A Number 3, and which is directly on the gas-oil contact line.

Q Sterling-Pacific 4, 5 and 6.

A And the next is West Flank No. 1.

Q Just a minute, I am trying to locate Sterling-Pacific 3, and it is you say where? Sterling-Pacific 3?

A Sterling-Pacific 3 is in the North West.

Q I have found it, and how do you describe it so far as the contact? ?

A It is located on the gas-oil contact line, and in area "A" of Mr. Davies' map.

Q Now the next one?

A The next one is West Flank No. 1 which is located in the South West quarter of Section 32.

Q Yes?

A And a considerable distance from the gas-oil contact line. I do not know which area that falls in.

Q It is in the yellow, so it is area "A"?

A Area "A".

Q Now those wells, as you understand, were used by Dr. Link to determine his reserves and we have located them on the map. Now let us stop there and find if you have any comment to make on the use of the Century well by Mr. Davies?

A The Century well was originally completed as a gas well and still has a high gas-oil ratio. It is located primarily in the gas-cap area of the field.

Q Now, with respect to these wells, all of them will you make such comment as you care to make with respect to

their gas-oil ratios and their pressures?

A The Turner Valley Royalty No. 1 is within area "A" and was a good well. Sterling-Pacific No. 3 is exactly on the gas-oil contact, has a very high gas-oil ratio, which was 29,600 in October. B. & B. No. 1 had a high gas-oil ratio, in October of 19,300. West Flank No. 1 came in originally as a poor producer and over 23,000 gallons of acid were put into the well in its early history. The well was also shot with 800 quarts of nitro-glycerine. The well has never produced over 210 barrels a day, and has two large producers, Sterling-Pacific No. 4 and West Turner No. 1 on each side of it.

Q THE CHAIRMAN: At an estimated distance of what?

A I will have to look, about, West Turner 1 is about a quarter, let me see, it will be about 660 feet to the West. Sterling Pacific 4 is about 330 feet to the East of West Flank No. 1. Out of a total of approximately 64 wells in the oil area, four wells were used as the basis of Mr. Link's estimate, and those wells have been discussed just now.

Q That is all you care to say about those?

A Yes.

Q Now will you locate for me on the map, or make such comments as you like or you feel you should on the map, we filed this morning showing the location of the Royalite rigs.

THE CHAIRMAN: That is the one you were going to fix up.

MR. FRAWLEY: That may be. The one with the round circles, was that withdrawn?

THE CHAIRMAN: You and Mr. Nolan were to agree on it.

MR. FRAWLEY: I wonder if it is here by any chance.

MR. NOLAN: It is just at the door. Mr. Davies will bring it in.

Q MR. FRAWLEY: I will ask you this, to lead up to that, what significance, Doctor, do you attach to the fact that the Royalite still holds acreage inyour probable, in the green acreage, the acreage contained in green on your map, and the area now drilling?

A It certainly.....

THE CHAIRMAN: May I interrupt you for a moment please, I want to be clear about it, the one you are presently working on, the map, is the one I hold the place No. Exhibit 24, is that notcorrect?

MR. FRAWLEY: That is quite right.

THE CHAIRMAN: I have that noted as a map and I understood it is the one which is being fixed.

MR. FRAWley: Yes, we can describe it at least I think for your notes.....

THE CHAIRMMn: I just wanted to be clear that there is no other map except that one, as Exhibitt "24".

MR. FRAWLEY: No, Exhibit "23" is the one which preceded it.

THE CHAIRMAN: That is right.

MR. FRAWLEY: Then the other one which Mr.

Nolan is doing will be "25"?

THE CHAIRMAN: No, it will be "24" when it comes in. I have just held that placefor it. Exhibit "25" is already in, it is the book from the Cominion Government.

MR. FRAWLEY: We will have to give it a later number because I have in mind we are going to have two more maps.

MR. NOLAN: I thought we were going to get Exhibit "24" and put on it all the information.

THE CHAIRMAN: Make it a composite of all these other maps.

MR. FRAWLEY: That is quite satisfactory, but that is a further understanding, that is quite satisfactory.

MR. NOLAN: There is a difficulty about it, Dr. Link informs me, because Exhibit "24" has not contour lines on it. It is not that kind of a map, and it might be difficult to superimpose all the information which we were going to provide, in a composite map.

Q MR. FRAWLEY: Now, Dr. Boatright, with the map Exhibit "24", will you then point out to the Commission, and they may be able to use the maps which they have, where the Royalite rigs are drilling and where they are producing?

A The Royalite acreage on this map marked Exhibit "24" is outlined in green, and the drilling wells of the Royalite Company thereon are marked as red circles. The wells marked "Royalite No. 38" I am informed by Mr. Link is owned jointly by the Royalite Oil Company

amd the North West Company Limited; "Royalite 39" is a Royalite well; "Royalite 36" is on a Shamrock Oil Company lease which was obtained by Royalite and "Royalite 37" is on purely Royalite acreage.

Q Let me interrupt there. When you made mention of the North West Company, for the sake of the record, it will be admitted that both the North West Company and the Royalite Company are wholly owned Imperial subsidiaries.

MR. NOLAN: The Royalite is not wholly owned.

MR. FRAWLEY: The North West is and the Royalite is controlled by the Imperial?

MR.NOLAN: Yes, they are subsidiaries of the Imperial Oil Company. As to the ownership we will not worry about that at the moment.

WITNESS: All of these wells are to the West of both Mr. Link's and my gas-oil contact line, and are on acreage which was not included in either areas "A" or "B" of Mr. Davies'.

Q MAJOR LIPSETT: Is not Royalite 32 on Mr. Davies' area?

A I am sorry, I do not think so.

Q As I take it, there is the division?

A Yes, it is, that is right, that is the well right there. With respect to Royalite 38 I wish to correct that statement I made that it was not in area "B" of Mr. Davies' map. It is within the confines of area "B" as shown by Mr. Davies' map.

Q Yes. Now is that all you desire to say with respect to this Royalite acreage?

A The only thing that, further, that I would have to say would be in answer to your first question.

Q As to the significance which you attach to it, as a petroleum engineer, what do you say?

A The fact that the Royalite is drilling to the West of the proven acreage, and also the fact that they are retaining their acreage in that area, indicates that in their mind that acreage is not proven as being non-productive, and the fact that they are continuing to drill to the West indicates that they think there is a possibility of making some money out of those wells.

Q Now, Dr. Boatright, if you will take the figure of 7300 barrels per acre which, am I right in saying, was Dr. Link's, for his selected wells, will you calculate what 17,187 acres, which I am right in saying, am I not, is the total of Dr. Link's proven and possible areas, would produce?

A That area would produce 125,455,000 barrels.

Q And that, just let me repeat for the sake of the record, is taking Dr. Link's figure for his select wells, and the total acreage in his proven possible areas?

A That is correct.

Q Now that completes the notes which I had, Dr. Boatright, with respect to Dr. Link's evidence. If you will go now to commenting upon Mr. Davies' evidence, and will you summarize the treatment which Mr. Davies gave of bottom hole pressures?

MR.NOLAN: May I be permitted to make this one remark. In Dr. Link's report, which I believe is Exhibit "18", in the case, on Page 7 is to be found

this statement:

"Comparative porosity determination for three "representative wells are submitted, attached to "this report, see Figures 6 to 8. These same "data are available for all wells drilled in the Scrude oil area, and may be examined if necessary."

Now I think in fairness both to my own clients and to Dr. Boatright, and to the Commissio in connection with the discussion that has taken place as to the efforts made to establish porosity, I think that it becomes necessary that these charts, this data which is contained in charts made by Dr. Link should be brought to the attention of the Commission. We have sent to our office for those charts and they are here now, and it seems to me, sir, that it is my duty to put them in now so that this discussion does not close without this additional information referred to in Exhibit "18" being brought to the attention of the Commission, because Dr. Boatright may so ezsily have something to say about these charts when they are produced to his attention. I suggest, sir, that we hand to Dr. Boatright these charts which we have prepared, and permit his examination of them at his convenience, and then he will have an opportunity of saying what he thinks about them before the evidence is closed so far as he is concerned.

THE CHAIRMAN: Perhaps the better way would be for him to step down and have Dr. Link verify his chart, and show how it is made up and so on.

MR. NOLAN: Very well, my Lord, I am

sorry to interrupt but it seems at the moment that this is the best way to do it.

THE CHAIRMAN: Quite all right.

.....

DR. T. A. LINK, having been recalled, examined by Mr. Nolan, said:-

Q Dr. Link, you are still under oath?

A Yes.

Q You are producing for the Commission some additional information referred to on Page 7 of your report?

A Yes.

Q Will you please in a word tell me what your first chart is?

A The first chart is a profile North to South showing average index of porosity for every mile.

Q And it is dated?

A This is dated March, 1938, and in connection with that.....

Q Before we say anything about that I think that should be given its number now and it will be Exhibit?

THE CHAIRMAN: Exhibit "26".

CHART SHOWING PROFILE NORTH TO SOUTH OF AVERAGE INDEX OF POROSITY PRODUCED BY DR. LINK HERE MARKED AS EXHIBIT "26".

Q MR. NOLAN: You are also producing what might be properlydescribed as?

A A porosity contour map, South end of Turner Valley. lower porous zone.

Q And it is dated?

A March 1938.

MAP SHOWING THE POROSITY CONTOUR, SOUTH END OF TURNER VALLEY AND ALSO LOWER POROUS ZONE PRODUCED BY DR. LINK HERE MARKED AS EXHIBIT "27".

Q Now will you please take Exhibit "26", which is the profile North to South showing the average index of porosity for every mile, and explain what that means?

Q THE CHAIRMAN: First tell us what it is, how is it made and where this one got the information and all that.

Q MR. NOLAN: Yes.

Q THE CHAIRMAN: Tell us what the map is?

A Yes. Well now, these indices were arrived at similar to the methods described by Dr. Boatright this morning with respect to his porosity figures, and as he pointed out only actual percentage of porosity from samples taken in Spy Hill are known. As I understand it the Government obtained the figures for him which he used this morning. After that all his information with respect to porosity boiled down to the human element or personal error of one man, comparing what he thinks is good, fair or bad porosity. In connection with this chart all these, the samples up to this date from the gas cap area and from the crude oil area in the porous zone of Turner Valley were examined carefully, and such samples as showed excellent porosity were labelled "A", those that showed next "B", those that showed almost as good porosity, were shown as "B" and "C", "D" and "E", so that there were five classifications of porosities. Then the number of feet of porous zone were taken into consideration, so if you had 10 feet of porosity "A" that was given

an index of 5. If you had ten feet of porosity index "E" that was given one unit. In other words, this also takes in the thicknesses of the porous zone and is wrong in this case where a well drilled on an exceedingly high angle and naturally had agreater penetration to the porous zone, its index of porosity wouldbe slightly high. In fact in some cases very high, on the East side of the structure, where it turned over as shown over there. So with respect to the indices of porosity on the East side, they really do not mean much, because you may have been drilling through a very high angle. However, they were taken in just the same, in order that there would be no doubt about the method. Then strips one mile wide were taken through the Valley, in which all the wells were put into that strip and all of them were classified and indexed as to their porosity. For an example, here is a strip through Sections 8 and 9, Township 19, Range 2, the index of porosity goes from zero to 60 for the upper porous zone here and from zero down to 60 of the lower portion, and in this on the one mile strip there was an index of porosity in the upper porous of 48.

Q I would like you to show that to the Commission so that they may see that.

A In other words, the porosity in the upper porous of this particular strip was very good, index 48. Unfortunately I took a bad one here because the lower porous in that particular section was not drilled, so I cannot tell you what it was, but you can see for yourselves what I am driving at. Here in the upper porous. So in this strip covering Sections 32 and 33 the upper porous did

not have a very good index. 23 and 25, the lower porous were very good. Now this brings up the profile through the entire field showing how the porosity is getting worse in the lower porous zone, and remains about the same for the upper porous. Gets a little better up here, and then of course, Home-Millarville is not on here, and incidentally its porosity is all in the upper porous zone.

Q Was Anglo-Canadian included?

A No, this was only up to March 1938. This was made before I ever knew anything about what was happening there.

Q How many wells?

A All wells drilled up to then, gas cap and oil. As you see, sir, as already pointed out, these were taken both in the gas cap and in the oil area where the information was available. The bad porosity in the lower porous in this strip here is the approximate position of Dalhousie 8 and Brown 3. Now this is a profile through the entire length of the field. Now only for the lower porous in the South end I made this other map. It is up-to-date, only to 1938 in March.

Q This is now Exhibit "27"?

A Yes.

Q Just show that to the Commissioners?

A On this map this same indices were used, and where the porosity is bad it is dark.

Q There is a legend, I believe?

A Yes, there is. Porosity, 20, to 40, 40 to 60, and 60 up. Where it is as high as we go it is white, it is left white, but all this shows that it does not conform to structure, because you see the porous

zones run more or less North to South, it is an irregular thing, and we do not know what it is going to be until we drill the well. Now here is an excellent example of what they brought out. Davies 2, a large well, having an index of 46, but Spy Hill had 24, and you asked, Dr. Boatright asked me whether I thought Spy Hill had good porosity. I would say it has good porosity, but not the best. There are others better than that. Now apparently that well, Davies No. 2, is surrounded by poorer porosity, and therefore, wells drilled opposite it will not affect it very much, for production nor will it affect them. All this map does, it shows you the patchy nature or the irregular nature of the porosities. It determines permeability. In other words good porosity here, very bad there, and good there again. There will be no inter-communication in that area.

Q THE CHAIRMAN: It cannot pass?

A It cannot pass or it will have to go around it.

Q MR. NOLAN: Now what information did you have that enabled you to make that map and to put on it what you have put on, as to the relative nature of the porosity?

A All the well cuttings from all the holes drilled in Turner Valley up to that time.

Q All wells?

A All of them. They were all examined.

Q Yes?

A There may have been the odd case where samples were not kept for 20 or 30 feet. Of course we could not use them then.

Q No. Now those samples are taken, are they, from time to time?

A They are taken usually by law once every ten feet, but in some cases where we wanted more information we have taken them every 5 feet, and in other cases every foot.

Q Well what number of samples would be taken into consideration in coming to the result as shown on this Exhibit "27"?

A I should say 150 times.....

Q Just approximately?

A 45, let me see, I am not thinking fast enough. We usually drill 450 feet into the limestone and, therefore, if you examine every ten feet you will examine 45 sets of samples for each well.

Q Yes?

A Therefore, if there are 150 wells, 40 times 150.

Q That is the number of samples used in the preparation of this chart?

A Yes. In addition to this examination there is further what is known as a binocular microscopic examination.

Q What does that mean?

A It is a microscope for two eyes. A monocular is for one eye.

Q What do you do with it?

A You examine these samples under this magnification so that they appear much greater in size, and they are much more readily examined for porosity.

Q And was that method used?

A That method was used.

Q And in addition?

A And in addition to that we made what are known as thin sections. The same as you made in your botany course when you took it at school, except we used them for rock. They are made by taking a piece of limestone, about the size of your thumb, grinding it down as smooth, to a smooth polished surface, pasting that on a glass, the turning it over and grinding it down almost to the glass so that this thin section sometimes is as thick as a piece of tissue paper, that is a thin section of rock. Then those are examined under a slightly higher powered microscope, not a binocular, but a monocular type. From those thin sections we find these sectional calcites which I have already referred to as clogging up in many cases the smaller openings between the larger pores. In some cases the calcite completely filled the pores so that no oil was ever in the pore, or if it was, it was squeezed out when the calcite was deposited. Now I would like to have this understood that in spite of all this work that I have done and that has been done under my supervision.....

Q THE CHAIRMAN: By the way, the examination of these samples you are speaking about, are they done by one man?

A Yes, Mr. W. D. C. McKenzie.

Q I interrupted you?

A Yes. I have in addition to these exhibits, if you wish them, enlarged photographs of the thin sections showing you exactly what is dolomite and what is calcite. Unfortunately I could not find them in the office yesterday, but I can produce them if you would

like to see them. These were photographed by me about the same time that this report was written. Now if you wish for me to read what my conclusions were on the basis of this investigation which finished in March of this year, I would be glad to do so.

THE CHAIRMAN: I think you should. These are conclusions.

A On the basis of this work which was done long before we ever knew there was to be an investigation.

Q MR. NOLAN: And the document you are reading now was made at that time?

A For the Company. The conclusions were divided into two sections, "A" and "B".

"1. The upper porous zone is fairly well developed,, "but to slightly different degrees throughout the "entire field."

You see that on this Exhibit here.

"2. The lower porous zone is well developed only "in the extreme South end of the field and is the "main producing oil horizon. It is poorly developed "in the North, central and South Central part, and "where observed in these parts, seems to have been "almost entirely obliterated by deposition of "secondary calcite. Dalhousie No. 8, Brown No. 3, "Advance No. 5A."

"3. The upper porous zone is the main producing horizon "for the large gas and naphtha wells throughout the "field, and appears to have been most prolific near "the crest of the structure. This was apparently due "to intense fracturing, rather than greater porosity."

I have already explained the fracturing.

" "4. The small amount of oil obtained in the wells "North of the Sterling Pacific Section is quite "definitely confined to the upper porous zone. "Model No. 1 and Advance No. 5A.

"5. The gas-oil boundary is farther down the flank "in the upper porous zone than is the case in the "lower porous zone."

And if that is the case, or if it is just the reverse of that case then Dr. Boatright's and my arbitrary boundary lines of the gas cap area are wrong.

"6. The average index of porosity for the entire field, "for both porous zones is 60;"

That is using these indices as I explained.

"for the upper zone 33; and for the lower zone 29."

And here is an abridged table of pososity indices.

	UPPER ZONE.	LOWER ZONE.	BOTH ZONES.
T.20	32.3	15.3	48.8
T.19	37.2	14.5	53.8
T.18	31.1	40.2	69.3 "

In other words in March it became apparent to me that the large production which we are getting in the South West end of the field might not be obtained Northward, and certainly I did not know there was going to be a Commission at that time. In fact I did not know I was going to be on this Commission until about ten days ago, I mean a witness at the Commission. I am not on the Commission.

"The above figures indicate that the South West "flank, Township 18, has a greater porosity index "when considering both zones and the lower zone, "and with respect to the upper zone it is essen- "tially the same as the remainder of the field.

"7. The above figures and profile, also figure 15 "indicate that the Northward extension of the "prolific oil area may not be beyond the North "bounday of Sections 7 and 8 in Township 19, "Range 2, West of the 5th. There appears to "be a barrier of secondary calcite deposited in "the lower porous zone which may have prevented "the Northward migration ofthe oil on the West "flank in this zone. See discussion of Figure 15 "in text.

"8. The discovery of high bottom-hole pressures "along the Southwest flank seems to point to the "conclusion that permeability, when considered "over wide areas, is not very great. If permeability "were widespread, the pressures measured in newly "drilled holes should be comparable to those "existing near the top of the structure today."

And of course that should be qualified by taking into account the greater depth at which the wells are now being drilled.

"This being the case, the 'closing in' of naphtha "wells near the crest of the structure may be "of little aid in preserving pressures down the

"flank."

For example if we find at that particular area all the gas in the gas cap area came out of the upper porous zone and most of our oil is coming out of the lower porous zone, we are talking about two different layers, and if you are going to preserve the pressure in the upper porous zone it may not affect the lower porous zone, but if there might be fracturing which connects both of them, if that is the case it may.

"9. The great diversity in size of wells, as "well as the marked changes of the porosity "index from well to well, indicates that perme- "ability is absent where no fracture exists, or "where fractures have been clogged up by secondary "calcite deposition."

And incidentally, if you want a good example of how fracturing enters into the production of a well, I will recite the record of Richwell No. 1 just recently completed in the South end of the field. Richwell No. 2 was one of the examples of very poor porosity given in this report No. 18, and as they do now with many wells, it was acidized immediately. The acid went in under vacuum. When they pumped this acid into the well they pumped it under pressure and they built up to a certain number of pounds, and if the well is tight, noneporous, it will not take it because there is no place for it to go. They built up the pressure then all of a sudden it gave, and away went the whole flood of acid and it pulled in this acid,

what I would think, through a crevice. In the samples, cuttings taken from that well in the porous zone, it showed what is known as slicken siding. When the rock moves along the false plane, alone a displacement lane like that, it makes scratches and smooths off the two surfaces, so that they are almost as smooth as this desk, that is what we call slicken siding, and that suggests pulling naturally. Samples of that kind were found in this well, and in addition to that on these surfaces along this fractured plane was found calcite, pure lime, which the acid attacks first, before it attacks dolomite.

Now "(B)" under tentative conclusions.

"1. There is a possibility that the upper and lower "porous zones may be connected with one another, "at and near the crest of the structure, by way "of open fractures. There are no data to substan- "tiate this possibility. Bottom-hole pressures "taken in both zones at the time of drilling the "hole might have thrown light on this problem.

"2. The brown staining of the porous zones North "of the Sterling Pacific section is highly sug- "gestive of the former presence of oil in the "zones prior to the deposition of the secondary "calcite."

Now there is a point which I did not bring out to date. The porous zones, the lower porous zones in particular, in the South end of the field, where the wells are prolific is white, in spite of the fact that it onntains oil. After the oil has been washed out it comes up

very white, but in the North end it is dark brownish, like that sample I gave you the first day. The closest examination of these cuttings suggests that there may a zone of oil between the sectional calcite at the walls of the pore space before the calcite was deposited. It may be, I think this is just an academic question, it may be that oil had been in that porous zone and then the calcite was deposited and pushed the oil out. It may have been pushed up down to the South end.

"3. The presence or absence of secondary calcite in "fractures may be an important factor with respect "to the initial size of a well. Likewise the "possible quick action and penetration of acid along "calcite filled fractures may explain the great "increase of production after acidizing, in those "wells where acidizing has increased production "materially."

In other words, I predicted what happened at Richwell last month, in March, and you know, geology is not an exact science but sometimes you can predict something.

"4. The question of closing-in all naphtha wells "at and near the crest of the structure, in order "to conserve gas-pressure for the flank crude "oil wells, is still open. Unless the lower and "upper zones are actually connected with one another, "the conservation of pressures in the upper zone may "have little effect on the lower zone where the crude "oil exists. The recent study shows that a distinct

"non-porous break exists between the two zones
"throughout the entire field.
" If the upper zone acts as a 'thief sand' the
"closing in of the structurally higher naphtha
"wells may be of some use."

Now by "thief sand" I mean this, we have two formations containing gas or oil under pressure. If the upper layer is at, under a pressure of 1500 pounds and the lower layer is at under pressure of 2500 pounds, if the well is closed in a differential may have taken place by this gas going into the one of lower pressure. That is a thief sand. You might call it a thief zone in our case here.

" However, more data on bottom-hole pressures in
"both zones are needed to determine this. The
"patchy nature of the lower porous zone itself,
"Figure 14, Map, leads one

this is it on this map I showed you,

"leads one to believe that direct communication
"of the West flank with the crest of the structure
"is problematical. Fracturing of the upper porous
"zone at and near the crest of the structure has,
"no doubt, given rise to a more direct and free
"movement of the lighter gas and naphtha throughout
"the structure in that zone. This may account for
"the fact that newly drilled wells along the crest
"usually 'come in' with closed-in pressures as expected,
"while the newly drilled in oil wells on the west
"flank are all showing pressures higher than expected

"on the basis of free or unobstructed movement "over wide areas."

THE CHAIRMAN: Anything more, Mr. Nolan?

MR. NOLAN: No, I think that is all you have to say in explanation of how these charts came to be made?

A Yes.

Q And the information which they contain?

A Yes. I might say that we prepared a map of this same kind up-to-date for our own information and if the Commission would like it after New Year's we will be glad to submit it in the place of this one.

THE CHAIRMAN: We will be very glad to have it. Just a minute, Doctor, any questions?

MR. FRAWLEY: Yes, if you please.

Q DR. BOATRIGHT: there are a few questions here I would like to ask you, Doctor, on that, I understood you to say that the indices which you have made and shown graphically.....

MR. NOLAN: Before you go on might we give this a number, now sir?

THE CHAIRMAN: We will make it Exhibit "28".

MR. NOLAN: And copies of this will be provided for the Commissioners. My friend has a copy and the reporter has a copy.

THE CHAIRMAN: All right, that will be Exhibit "28".

THE CONCLUSIONS PRESENTED BY THE WITNESS DR. LINK HERE MARKED AS EXHIBIT "28".

THE CHAIRMAN: We will now take a short recess.

(The investigation was here adjourned for five minutes).

.....

Q TO DR. BOATRIGHT: Now Dr. Link, inasmuch as we have now considerable evidence on the subject of porosity which heretofore we have not had at our disposal, it might be well to go into the theory of how this porous happened to be there, as a basis for the analysis of these porosity figures.

THE CHAIRMAN: Before you enter upon that, may I ask each of you, did you offer, Dr. Link to Dr. Boatright, for his consideration or did you, Dr. Boatright, ask Dr. Link if he had any such material before either of you gave evidence.

DR. LINK: You mean during the last few days?

THE CHAIRMAN: Yes; when you were seeking information, Mr. Boatright, in preparation to give evidence here, before this Commission, did you seek any from the Imperial?

DR. BOATRIGHT: No I didn't. I took all of my records from the Petroleum and Natural Gas Division. Mr. Link's work was outside of that. It might be well to put in a word of explanation there, We have work that has been done almost along the same lines as Mr. Link's, and had 61 wells upon which to base our evidence of porosity. I felt that that was sufficient. We had the actual porous,porosity figures, from the only well which had been cored in the form in which actual porosity measurement had been made, We had information similar to that which Mr. Link has offered on 61 wells in the field which was a large proportion of the wells and I did not feel that it was necessary to go further. However, now Mr. Link has introduced two charts which

will require analyzing. I considered the same thing, although in a slightly different way, but in order to clear up this subject of porosity now that this evidence is in, I feel that we should have an understanding as to how that porosity occurred, what its past history was, in order to intelligently interpret this information.

THE CHAIRMAN: Quite so. These two charts came in late, and I just wanted to know why it was. How it was not mentioned in your evidence in chief.

MR. NOLAN: My Lord, may I explain a part of that. It is referred to in that portion of Dr. Link's report that I read to the Commission this morning.

THE CHAIRMAN: At what page?

MR. NOLAN: At page 7. What I read to you this morning.

THE CHAIRMAN: Is there anything appearing there about these charts?

WITNESS: No, it just said further information in that respect could be found, and in fairness to myself I would like to make this statement, that when I heard Dr. Boatright was here I went, as a courtesy call, to see him, and I told Dr. Boatright that I would be glad to discuss the problem which he and I are going to work on any time he wished to. He could come over to my office and get any information he wished, but Dr. Boatright did not avail himself of that opportunity, and I think if Dr. Boatright and Mr. Davies and I had, we might have been much closer together on this.

THE CHAIRMAN: Well all right, gentlemen. Now

we will proceed with the cross-examination.

DR. BOATRIGHT: Just a word, Mr.Chairman, I would like to explain one thing which may seem a little peculiar to you. As I stated a few minutes ago I felt that the information I had on porosity was all that was necessary of the type of information available. I knew Mr. Link had some additional information. After all that information was the result of one man's work as was mine, and in this cross-examination of Mr. Link I am going to try to show to you why I did not consider it.

THE CHAIRMAN: Allright.

Q DR. BOATRIGHT: Dr. Link, will you please give us your idea of the history of this prous space in the lime in Turner Valley?

A With respect to first the formation of the dolomite?

Q Just start right in at the beginning and carry the history of that porosity through?

A Now limestone, pure limestone is calcium carbonate, Ca Co 3, chemically speaking, but there are very few limestones known in the world that are pure. There are other constituents in them, either in a chemical combination with it or a physical, like a grain of sand. A grain of sand would be physical. One of the main constituents of calcium carbonate or limestone is magnesium carbonate, MgCo3. I may be a little off on my twos and threes in these chemical formulas but the main thing is this, that they are all gradients from the extreme dense, hard black lime which is usually called by geologists the magnesium limestone, because the magnesium is there in greater proportions than in

the black limestone, in the black sort of limestone, so we have the two extremes, magnesium limestone and pure limestone. Now through processes which are not agreed upon by all geologists, changes take place in the limestone. If one part of calcium carbonate joins with, I think it is another part of magnesium carbonate, there will result a calcium magnesium carbonate which is dolomite, that is with limitations. I can explain this.....

Q May I interject there that tends to give the porosity?

A Yes, that gives the porosity, and theoretically it will give a porosity of 12.3%, if everything is fine, but as I say the limestone is not usually pure, not as the magnesium carbonate. The main thing to remember there is plus that magnesium carbonate you get calcium carbonate in solution, as in water form. It is water with calcium carbonate in it. Now when that takes place, naturally you ask where does this calcium carbonate in solution go through. Now it can do several things, and there again it all depends upon what the pressures are, what the temperatures are. They have tried to make and they have succeeded in making small amounts of dolomite, calcium magnesium carbonate in the laboratories, but there we have this calcium carbonate in solution. It may all settle down to the bottom of this dolomite, and be deposited down there as a solid mass of calcium carbonate in the bottom part of it ,or on its way down it may trickle through and wherever it comes in contact with a small pore space it may fill that up, and that is where the secondary calcite comes from. However, there may be

conditions where waters from other sources might come in contact with this dolomite, which also may have calcium carbonate in solution , and fill those pores, even granted they would be filled from this remaining calcium carbonate. Now the peculiar part about this all is that the magnesium limestone has a great deal more magnesium in it than the dolomite limestone, and it is very dense. Magnesium limestones are very solid, dense masses, and there is the possibility of what we call our black limestone is a magnesium limestone. That is just a theory now. I have not been down. I did not watch these things when they happened, so there we have porosity made by a combination of calcium, magnesium and carbonate, rather the calcium carbonate into the calcium magnesium carbonate, which is dolomite. That is what we might term the primary formation of dolomite. Now it may happen when the sediments are laid down, it may happen millions of years after they were laid down, we do not know, they are always trying to find out, but in some cases they think it happened this way and in other cases they think it happened the other way. After all this has not much to do with pipelines. Now in addition to this, is this all right so far?

Q Go ahead?

A Now with respect to increasing the size of these pores. Let us assume we have what is theoretically regarded as a true dolomite, with 12.3 porosity. If circulating waters enter this formation under a pressure and temperature which would be suitable for this circulating water,

to dissolve even further these pores into larger spaces we might call that secondary enlargement of pores, or it might even be secondary dolomitization. It is quite characteristic of fossils shells which are in this limestone.

(Go to Page 591).

They are pure lime to start with but have a tendency to go over into dolomite and just why, they do not know. Therefore if you have a limestone which is there, which is profuse with fossils, when dolomitization takes place it will be more porous than the usual 12%.

In addition to the chemicals mentioned above there are others, like silica, that is a pure form of, oh you can call it sand, quartz, silica is an amorphous form of quartz. We find stringers also of that in the Turner Valley limestone also and it is very dense and hard and I would like to state here that I think in that 170 feet of porous zone which Dr. Boatright used, a great deal of it cannot be regarded as porous limestone, it is crystalline limestone, it is limestone where solution or something, I do not know what, has changed the limestone with any crystalline constituent, into crystalline shape and it looks just as white as the porous zone and drills just as easy because calcite in pure form is very soft. The same may be said about this porous zone, when it is entirely filled with calcite it drills just as easy as if it was filled with oil because calcite is very soft. On the other hand when you hit a band of silica you have got to stop right there because it is hard, it is harder than steel. I think that is about far enough. We can go on forever on dolomite. Incidentally you should know considerable about

dolomite because Professor Van Tuil, who used to be at the Missouri school of mines has possibly written more about dolomite than any other geologist I know of in North American and he is at the Colorado School of Mines.

Q He is at Colorado?

A He did the work in Colarado but he used to teach at the Missouri School of Mines.

Q Now in your estimation was this lime originally laid down, or rather how in your estimation was this lime originally laid down.

A It was laid down under the sea.

Q And what sort of water, shallow or deep?

A Shallow.

Q And was the water warm or cold?

A I do not know.

Q The general opinion is that it was warm water, is it not?

A There are some geologists who claim that limestones require warm water for disposition but they are finding limestone dispositions being made away up in the Artic Circle today.

Q If they are found in the Artic Circle that would not necessarily indicate what the temperature of the water was at the time.

A No, I am talking about marl dispositions which are being laid down in lakes at the present time, and marl is a form of lime.

Q About how much, relatively, how much magnesium carbonate does the water contain in proportion to calcium carbonate?

A I do not know. If I would tell you I would be guessing.

Q Is about 3 to 1 correct?

A I do not know. I can find out but I do not want any homework over Christmas.

Q Then this lime was laid down under the sea in relatively shallow water, was it not?

A Possibly.

Q And is it, as time went on, that lime was deposited and at the time it was deposited, did it or did it not have porosity of itself, that is the particles of limestone which were so superimposed on one another, was there any porous space in between?

A When it is laid down it usually is laid down as ooze, or mud, as there, "ooze" describes it, a slimy mud and it may have included in it particles of water and the chemical change of that "ooze" into mud will naturally take place as the temperatures and pressures are changed, over millions of years or thousands of years, as the case may be.

Q In other words then at the time the limestone is laid down it has an inherent porosity due to the way it is deposited on the ocean floor, doesn't it?

A Not in the same sense as porosity in a sand for example.

Q Well at the time it is exactly in the same sense, is it not, because the pore space is filled with water.

A No, but the particles of it are so small that they

fit together so tightly that it is not like a sand.

Q Yes, but so far as porosity is concerned, couldn't you have identically the same porosity with small particles, as you can with large ones, theoretically if we place perfect spheres of any size together and place them that way, one on top of the other, that will give us a theoretical porosity of how much, do you know?

A No, it depends upon how you put the grains together.

Q If you superimpose each sphere of the same size in a cubical arrangement, just as though these spheres were with eight corners and this radius is half the length of one side of that sphere, that would give you a certain defined porosity regardless of the diameter of that sphere, would it not?

A Yes.

Q And what is that porosity?

A I don't remember.

Q It is slightly over 47%, is it not?

A That is for sand grains or spheres?

Q That is for spheres.

A Yes, for spheres.

Q And if we take those spheres and lay them together under the most compact manner possible, regardless of the diameter of the spheres, it will give us a certain porosity, will it not?

A Sure.

Q Then the matter of the diameter of these particles which are laid down will not make any difference in so far as porosity is concerned.

A Yes, but you cannot give me one instance where the spheres are all the same diameter and therefore adding to yours, if the diameters of these vary, supposing we had some more little spheres which will fit into these little places you have just put together in the larger spheres, they would take away porosity also.

Q But you have that same condition in sand and lime?

A Sure.

Q And so it is possible when that lime is laid down to have the same type of porosity as sand?

A No.

Q The total void spaces might be the same?

A Not necessarily because a great deal of lime is also laid down not mechanically, but chemically.

Q In your estimation was this lime laid down mechanically or chemically?

A I do not know.

Q You have no opinion upon that?

A No. A great deal of it naturally was mechanical, because you can see by the fossils in it, they are part of the lime.

Q They are part of the lime?

A Yes, they were laid down with it.

Q What is your idea of the reason these fossils occur in the lime?

A Because they lived there.

Q In the lime?

A No, not necessarily, they lived at the surface, at the top of it.

Q Is it not the general idea that these fossils were killed because of the conditions existing at the time that lime was laid down and fell into the lime and was included for that reason?

A Well some of them are animals which swam above in the water and others at the bottom, like oysters for example. You never heard of an oyster swimming around at the top except in the egg-stage, theylived right down on the surface there.

Q Then we are back to the limestone when it is laid down and it has some porosity, regardless of the amount, does it not?

A Some but how much I do not know.

Q And it has some entrained water in there, doesn't it?

A Yes.

Q And then this limestone after being laid down, the sea receded, the limestone was eroded, is that approximately the history of this Turner Valley limestone?

A The limestone that is there was not eroded, otherwise it would not be there.

Q How do you account for that silicious layer on the top of the lime?

A The limestone was eroded down to the top of where it is now, and just how much limestone was above that, that was eroded, we do not know.

Q No, but nevertheless, as we trace the history of this limestone from the time it is laid down up

until now, there was an erosion, on top of that lime, was there not?

A Yes, what Dr. Boatright is trying to tell you, that after this limestone was solidified and then raised up again above sea-level, it was in contact with the air, is that right?

THE CHAIRMAN: Go on, we are listening to your views now.

A Well it was eroded and there was what we call an unconformity.

Q DR. BOATRIGHT: Now in your opinion, was this dolomitization, put it this way, did the dolomization of the limestone take place after that erosion or before?

A That is something that, I would say offhand, I would say it happened before.

Q Before?

A Yes, because you have these two very hard streaks that you are mentioning at the top and another one between the upper and lower porous zone.

Q Indicating possibly two unconformities?

A No, I do not think so.

Q How do you account for that lower silicious layer?

A That silica may have been deposited in there as a primary silica, it might have been, I do not say it has, it could.

Q Well it is your opinion then that this dolomitization took place soon after that limestone was laid down and before its emergence, is that it?

A Possibly from the evidence we have.

Q At that time then these pores were continuous

throughout because you find these porous layers pretty well scattered over the lime, don't you?

A No, they are not scattered all through the lime, there are some very very dense layers.

Q You find this upper porous zone in which conditions were favourable for dolomitization pretty well over?

A Yes, you find it.

Q You also find the lower zone fairly continuous, although as you state, there is some calcite has been deposited but the pores were there nevertheless.

A No, I would not admit that. As a matter of fact, to show you how theoretical this is, Mr. McKenzie now has the idea that in some of these wells there never was a primary dolomitization at all, see.

Q Is that your own opinion?

A We will have to do more work with petrographic microscope to find that out.

Q As I understand it then the geological history of the formation of this limestone in the line of the present geological knowledge is not sufficient to give you any basis for determining whether or not these pores are continuous down on the West.

A Correct, and therefore it is my opinion that any estimate on the reserve of crude oil cannot be based on the porosity of this limestone.

Q All right. We will go into that now. Referring to your chart No. 1 which I believe is marked Exhibit "26", the map carrying the index porosity,

and by the way, while we are on that, before we leave that other subject, there is no definite geological information which precluded the possibility of it being poured down there, is there?

A No.

Q So it is fifty fifty either way, the geological information does not give you a criterion for using it and on the other hand it does not give you a criterion for discarding it.

A The records from other oil fields and from the observation of out-cropings of limestone and dolomite and my field experience, seeing them, living on them, camping on them, leads me to believe that dolomitization is an irregular thing which no man can predict as to its extent anywhere, let alone in an area where you cannot see it.

Q In this particular field though, so far as the upper zone is concerned, you find it is fairly uniform throughout the field, don't you?

A Yes, fairly.

Q The actual drilling of this field has shown that that upper zone is fairly uniform throughout the field and has been encountered in every well except those wells which show secondary calcite.

A Yes. As a matter of fact there is very little secondary calcite in the upper porous.

Q You always have some, except in one or two, for instance Dalhousie 8.

A No, that is all lying in the lower porous..

Q The upper porous was all right, was it?

A I cannot tell you that. The section which I observed in Dalhousie, it may have been the upper, because there was practically nothing in the upper porous zone at the well. I presume we should by inference assume that, if it was porous there was nothing in it or it was non-porous.

Q In other words you have a pretty good criterion for saying the upper porous zone is pretty well continuous in the field.

A It is continuous but irregular.

Q Irregular in amount but continuous in fact, is it not?

A Yes.

Q And carrying that analogy further, if conditions under which these porous spaces were made were such that it allowed a fairly uniform porous section running through one strip, it is at least not unreasonable to assume that the same thing might happen in a lower streak which was laid down.

A Not considering the conditions and considering the facts that you have a magnesium limestone under the second, at the lower zone.

Q That magnesium lime by the way, did you have any analysis of that?

A No.

Q Are you familiar with Mr. Goodman's article on the geology of Western Canada?

A Yes.

Q Does he not have about the only information on that Sioux well.

A Doesn't it show the analysis of the limestone in this Turner Valley?

Q Yes.

A There is another one here, "Variations in the chemical composition of the oil and gas bearing limestone at the Sioux City well, Turner Valley, Alberta, by W. P. Campbell".

Q And what is the percentage of magnesium which is found in that lower limestone section?

A Well I really do not know where the porous zone comes in the Sioux City well.

Q No, I am talking about this magnesium lime, that section 450 feet below the top.

A Where was the top lime at Sioux City?

Q I will give you that chart.

A I think it is 39 hundreds, here it is, 4385.

Q Referring to that, does that show any evidence of being a magnesium limestone?

A Well they run about the same all the way up and down here. There is the dolomitic part, they change, they alternate, the highest magnesium carbonate, the purest basis in what might be the porous zone, runs up to 45 and below that runs up to 38 in some instances, but in most instances as we go below here of course, we start getting into what would not be called magnesium lime but would be called a shale.

Q You would not call the lower part a magnesium?

A No, I just made that suggestion.

Q What were you going to say about on the basis of that Lower magnesium limestone.

A The thing I would like to point out here that you have, this dark between the upper and the lower porous zone and in which unless fracturing would allow it, secondary dolomitization may not have taken place in the lower porous, it may have in the upper.

Q Again referring to that analysis of the lime, as a matter of fact in that middle, inpermeable layer between these two sections, the amount of dolomitization is much greater than in any other part.

A You mean in the dark between.

Q The actual amount of dolomite in that dark?

A Yes, that of course, that is on a pure basis, is it not?

Q Yes, that is on a pure dolomitic basis, that is that dotted line there?

A Yes.

Q And that section which is impermeable shows the greatest amount of dolomite, doesn't it?

A Yes.

Q In other words that would indicate that something happened to that dolomite after it was formed, would it not?

A Yes, yes the fossils indicate that too.

Q In that event the composition of the lime initially would not have very much to do with it, would it?

A No, I didn't say it did.

Q I am just bringing out the point?

A Yes.

Q Coming back to this chart No. 1, just what does the index, I will repeat, coming back to chart No. 1, which has been marked Exhibit "26" you show thereon so-called porosity indices for both the upper and lower porous horizon in the big lime?

A Yes.

Q What do those indices mean in terms of thickness of section?

A I explained to you that for every ten feet of porous zone, it goes under a classification of "A"; this ten feet would receive five units; every other classification of ten feet of "B" classification would get four units and so on down to one unit and then when it is dense, no units.

Q And then on that basis let us analyse these indices, let us take, you have one there, any one.

A We will go to the far right, here is 22, no, 24 on the South end, or the top.

Q All right, let us analyse that indices, what is the maximum thickness and porosity that that could represent then, that will be the maximum thickness with a minimum porosity, what could that represent?

A That could represent 24 x 10, 240.

Q 240 of a porosity of 1%?

A Yes.

Q Let us go to another one.

A Well we will take the big one here, the figure, sections 8 and 9, township 19, range 2, 48 x 10, would it not---

Q In other words then that should resent a maximum

thickness of 480 feet with a porosity of 1%?

A Yes.

Q Or it could represent a thickness of 240 feet, 220 feet of course it would be.

A Yes.

Q With a porosity of 2%.

A Yes.

Q Or it could represent, and so on down the line,

A Yes.

Q In other words these figures give the maximum thickness with the minimum of porosity or the maximum porosity with the minimum thickness?

A Yes.

Q And you have no way, from these records, of telling just what that thickness is, do you?

A No.

Q So when you say that you figure on 170 feet as excessive, that information there alone would not be sufficient?

A That would not show anything about it.

Q That would not justify that statement, would it?

A No.

Q And what have you figured out the effective void section represented by those figures?

A I have not figured those out.

Q You have not figured those out?

A No.

Q Let us do that for one of the forty indices.

A Take the right side one here, 24, on what basis, do you want to assume 12%.

Q I want to show the void space represented by that.

A I do not know what the percentage of porosity is, how can I figure it?

Q In other words that does not tell you anything about percentage of porosity?

A No, I never claimed it did.

Q It simply shows a variation in pore section throughout the field, is that right?

A Yes, the best thing we could get hold of at the present time.

Q In other words that chart there then would be of no assistance in calculating reserves would it?

A No.

Q If you wanted?

A Oh no. All that does show in graphic form to people other than geologists how porosity varies just as the map does.

Q Then that particular thing would be of no value in an evaluation, would it, other than showing that porosity does vary from place to place?

A That is all that I am trying to demonstrate there and it is apparently very similar in the lower porous in the central part, the central and north central part.

Q Now referring to your Exhibit "27" I believe, the porosity contour map?

A Yes.

Q That I believe showed only the lower porous zone?

A Yes.

Q And I believe you had stated heretofore in your testimony that in your estimation the lower porous

zone is much the poorer of the two zones, is that correct?

A No. For the south end of the field the lower porous is the better.

Q In other words the two porous zones seem to more or less compensate over the field, that is if you get lower porosity in the upper, you generally get higher in the lower.

A No, I would not say that.

Q That map is of no value for over-all porosity in the field.

A No, this is just talking about the main producing horizon in the south end of the field and another thing you might be interested to know, that when tests have been made in some of these wells, to measure the gas and oil in the upper porous with respect to the lower porous that the percentage of oil in the upper porous is about 10% of that found in the lower porous and the amount of gas is much greater in the upper porous relatively to the oil than in the lower.

Q As a matter of fact though you also have several wells such as the Frontier and Royalite 32 and Royal Canadian No. 2, which have very little porosity in the lower section and yet are pretty good wells, are they not?

A Which ones were they??

Q The Frontier, Royalite 32 and Royal Canadian No.2.

A Yes, and Richwell is, to give you an example of one that has absolutely the worst porosity and a big well because of fracturing, which also throws out

all calculations because you do not know how much fracturing there is going to be.

Q As a matter of fact a drill stem test of Sterling Pacific No. 6 and Anglo-Canadian No. 1, Royalite No. 29, indicated a large amount of production coming from the upper zone didn't they?

A Yes. You see Royalite 29 is in the north end of the field, which bears out my contention that the upper porous is good there.

Q In other words then---

A Home-Millarville also does.

Q As a matter of over-all information for the benefit of the commission that exhibit "27" is not of much use, is it, because it is misleading, it does not take into consideration the upper zone at all, does it?

A No.

Q And the north end of the field, the upper zone seems to be the very important one whereas in the south end of the field it may not be and the true picture would be given by the map?

A It can be taken from this too.

Q Showing the upper and the lower zones?

A Well I tried to make a map like that and it didn't come out as a very good picture.

Q Why?

A Well the thing is we are dealing with the upper porous in a long area where it was at the top of the lime and these factors came in it, and these figures are not very good, so I confine myself down in this area, in the southwest flank, now

here, the porosity of a well drilling on the end here, would be very good and it would not mean much.

Q Well in other words a map of that sort would not show anything like what this map shows, would it?

A I do not know, I think it would in amgeneral way, yes.

Q Then why would it not be feasible?

A You could make it.

Q It being a more nearly true representation of the field than that one.

A I am not going to represent it for the whole field. I am only trying to represent what may be the condition in the south west end of the formation.

Q As I understand it then that Exhibit "27" does not present a true picture?

A Of the entire field?

Q Of the average porous condition of the field and merely indicates that the porosity varies between fairly wide limits in various portions of the field and stresses the point that a large number of wells must be used in any analytical attempt in estimating reserves.

A Yes.

Q You base your estimate on 4 wells out of 64, did you not, when you made your estimate?

A Yes.

THE CHAIRMAN: Gentlemen, I think we will adjourn for the time being. I anticipate that there is still the necessity for Dr. Boatright leaving tomorrow night.

DR. BOATRIGHT: I am sorry to say it does.

THE CHAIRMAN: Well as I have intimated to counsel, the members of the commission are anxious to be able to work over the holiday on as much evidence as we can get before that recess and so in order that you may conclude your examination of Dr. Link without being hurried and in order that your own evidence may be given, it seems indicated now that we should sit tonight. Let me say to counsel that I have no intention of ordinarily going beyond court hours because I think that is all that one can do and do intelligently and well, but I propose making an exception in this case and my associate agrees with me that we should, to let Dr. Boatright get away if we can, if he must go, because that is the understanding on which you brought him but to get as much evidence in before he does go as may be, so that we may work on it during the holidays, we will sit tonight at 8:00 o'clock and you, Mr. Frawley, might arrange with Mr. Cutler as to how things should be handled. There is a limit to what he can do.

(The investigation was here adjourned and resumed at 8:00 p.m.)

December 16th, 1938.

8:00 P.M. Session

CROSS-EXAMINATION OF DR. LINK BY DR. BOATRIGHT (Continued)

Q DR. BOATRIGHT: Mr. Link, I believe you mentioned something during your discussion this afternoon concerning the brown spots in the porous section of the lime?

A Yes.

Q Do you know anything about the Home-Millarville well?

A It is nothing but, except what I see in the papers.

Q Did you see any of that core or cuttings from that well?

A They have not taken a core of that well, I have seen the cuttings, yes.

Q The cuttings?

A Yes.

Q Do they show those brown streaks in the cuttings?

A I did not look at them under the microscope, but the cuttings from the Home well appear to be more comparable to those which were found in the central part of the field and are quite different from those in the south end.

Q There was some of that brown?

A It might be.

Q A fact which you referred to before, and you know, of course that that well is producing at the present time and has been brought in within the last day or two, I presume?

A I do not think that is quite right. The well is not on definite production. They have had nothing more than two hours' production test on the well, and so far as I am concerned, that does not give sufficient time to give

an estimate to say what that well is producing.

Q Do you know that that well is producing at a rate of 25 barrels an hour for the last 16 hours and is still producing at that rate?

A That is information which has become available since the last I had of it because yesterday the claims were always from 120 barrels down.

Q In the event that that statement is true, that would indicate that these brown spots in the drill cuttings are not necessarily a criterion of what the well will produce, is it?

A No, I never said they were in any instance.

Q At all events, the fact that something that would indicate oil residues in the cuttings from the core would not necessarily prove that a well would not produce?

A Oh, no; in fact, it would lead one to believe that there should be oil there.

Q I was possibly under the wrong impression. I thought from your testimony this afternoon regarding that lower sand which contained pore spaces which were partially or fully filled with calcite and had that brown stain, indicated to your mind that these wells in that particular section could not be expected to produce oil?

A No, that is a wrong impression you got.

Q Both the upper and lower zones are known to produce in various wells in the Turner Valley field, are they not?

A Yes.

Q MAJOR LIPSETT: Is the present location fixed of that Home-Millarville?

A Yes, it is on the map, it is on all the maps, it is on my map, figure 1, it has already been taken in as possible oil area, so it does not alter any figures which are here.

Q THE CHAIRMAN: The witness is pointing out the well in question?

A This is the Home-Millarville No. 2, and No. 1 is here.

Q MAJOR LIPSETT: This is No. 2?

A Yes.

MR. FRAWLEY: That is all, Dr. Link.

Q TO MR. NOLAN: There is one point that I think we were left in doubt about, and that is the position of Sterling Pacific No. 3, the question was whether it was on the boundary between two areas, and something was said at one stage that, perhaps, Dr. Link could assist us ind determining where the bottom of the hole was, and I think Mr. Davies in his evidence preferred to leave that to Dr. Link and said, perhaps, Dr. Link could assist about that, perhaps you can, Dr. Link?

A Yes.

Q I will ask you if I may?

THE CHAIRMAN: Certainly.

A The Sterling Pacific 3 well in question is this one, the directional survey of that well.....

Q THE CHAIRMAN: You are referring to what Exhibit?

A Well, I am referring to no Exhibit, I will refer to this Exhibit "7", the well is here. Now, that is the derrick floor of that well, the bottom of the well is 660 feet to the south-west, a directional survey showed that and that puts it well inside the crude oil area.

THE CHAIRMAN: Mr. Frawley, you started to ask Mr. Davies some questions to which he could not give the answers?

MR. FRAWLEY: Yes, with respect to pipeline.

THE CHAIRMAN: Yes.

MR. FRAWLEY: I might pursue that with Dr. Link?

THE CHAIRMAN: Yes.

Q TO MR. FRAWLEY: Dr. Link, you are, of course, an officer of the Royalite Oil Company?

A No, I am not.

Q Well, you are an officer, I mean in the sense that you are the chief geologist for Western Canada?

A I am just an employee.

Q I mean it in that sense?

A But I am not an officer.

Q Not an executive officer, but you are an official?

A No, I would not say I was an official.

Q Well, we will get it, you are the geologist in charge of operations for Western Canada?

A Yes.

Q Responsible only to Dr. Hopkins, who is your immediate chief?

A Of geology though.

Q In geology?

A Yes.

Q Now, I would like to ask you something about what I perceive to be the effect of your evidence, and that of Mr. Davies. I presume that your evidence was laid first to serve as a basis for Mr. Davies' evidence?

A Yes, that is the geological part of it.

Q That seemed to be the natural order to your counsel, that you should precede Mr. Davies?

A Yes.

Q And using your evidence in part and his own determinations in part, he gave the Commission his opinion that the life of the Turner Valley field to be sure was two years, and he gave an extra year with respect to the gas-cap, that is right, is it not?

A I think those were the figures he gave.

Q Well, that means them this Commission, if it accepts your evidence and that of Mr. davies, will ascribe to the Turner Valley field for its purposes here, namely, the determination of a pipeline rate, a life of three years?

A Yes.

Q That is what you seek to have done?

A Yes, if they accept that.

Q And it is your suggestion to the Commission that they should accept that figure?

A Yes.

Q Now, if the Royalite Company pipeline has a through-put per annum of five and a half million barrels, yearly through-put, that through-put at the 15¢ per barrel will gross in revenue to your company about three-quarters of a million dollars?

A I suppose that is so.

Q That is a simple calculation?

A Yes.

Q You agree with me definitely, do you not?

A Yes.

Q And if the Commission should accept the joint submission

of yourself and Mr. Davies, that the life of the field is two years, and now what information have you got with respect to the capital investment which your pipeline has in its pipeline system?

A Well, I will tell you now, Mr. Frawley, before we go any further, I know absolutely nothing about that, and I am telling you the whole truth. I know absolutely nothing about the finances of this company. The only thing that I have to do with the finances of that company is my salary cheque at the end of each month. Geology is all I deal with. As a matter of fact, I have told you I was not a production engineer either, so I do not think any cross-examination of me beyond my scope or my field is in place.

Q Well, I can assure you I will not be allowed to pursue it any further than it is proper and I will be kept within its proper limits, your company is sufficiently interested in the financial success of this venture?

A Certainly.

Q To present you to the Commissioner as a witness for the purpose of giving to this field and these reserves a lifetime of two years, you will agree with that?

A Yes.

MR. NOLAN: Now, that is not right, Mr. Chairman. As I understand the evidence of this witness, he says there are two years reserves known and another year they hope will turn out to be true in the proven area, but there are 10,000 acres of other oil lands which he does not for one moment condemn, but the productivity of which can only be ascertained by the use of a drill.

I think that is a fair statement and a fair summary of what this witness has said.

MR. FRAWLEY: Of course, my time has not come for argument, but my answer to that is that Mr. Nolan, although he protested to the Commission this morning, and I think yesterday, that he was here to assist as much as he could, still his witnesses have told the Commission that they had no estimate with respect to the productivity of that further area which Dr. Boatright speaks of, but, be that as it may, Dr. Link, if you will assume with me that the capital assets of your company in this pipeline amount to about a million and a half dollars, you will assume that with me for the moment?

A Yes.

Q That it is a fact, it just naturally follows, does it not, that this company of yours will require its total gross revenue to amortize its plant without the allocation of a single dollar for operating expenses?

A Well, I know nothing about books and bookkeeping.

Q You can do that problem in simple arithmetic?

A Yes, I can, a theoretical problem like that.

Q Theoretical, be as it may, if the capital structure amounts to about a million and a half dollars, then it necessarily follows that your company will need its gross revenue to amortize its plant, with nothing left over, that follows, does it not?

A What does amortizing mean?

Q The manner in which your company will get back its investmen It is entitled to get back its investment, I presume, and on the lifetime which you have ascribed to it it will

have to get back its value during its lifetime, I mean in two years, you will agree with me then if that is so that it follows that they must take their gross revenue to amortize their plant?

A Yes.

THE CHAIRMAN: Dr. Link seems to be very much in the same position as Mr. Davies. I think there should be no difficulty at all in requiring the officer who does know about the investment to appear here and give this evidence.

MR. FRAWLEY: That is right, and that is precisely what I intend to do in view of these two negative answers which I got from these two witnesses, which are all, of course, the company has put forward to date.

Q TO DR. BOATRIGHT: Just one thing; as a matter of clearing up the record, there are certain wells in the field in which both porous zones are productive in the same well?

A Yes.

THE CHAIRMAN: That is all, thank you, Dr. Link.

.....

DR. BYRON B. BOATRIGHT, having been recalled,

Continued Examination by Mr. Frawley:

Q MR. FRAWLEY: Dr. Boatright, we now go back to where we were about three o'clock this afternoon, and before there was the intervention at that time, you were, you had just completed your comments upon Dr. Link's evidence, and I was about to take you over Mr. Davies' evidence. Now, having heard this new evidence of Dr. Link's, will you tell me whether that has in any sense affected the opinion and the submission which you made to the Commission earlier in the week with regard to the estimate of the reserves in the field, having in mind particularly the question of prosity?

A It has not. As a matter of fact, I knew that Mr. Link had the records referred to but I felt then, as I do now, that the information which was available through the records of the Petroleum and Natural Gas Department of the Alberta Government were just as accurate and as sufficient as was necessary and I still feel that way about it.

Q THE CHAIRMAN: Your cross-examination would indicate a further opinion, have you any to offer ?

A Yes, I have. I feel that Mr. Link's conclusions with regard to the porosity are erroneous, I feel that in view of the conditions in the field that any estimate based upon the performance of four wells, part of which are in the gas area, would certainly lead to an erroneous conclusion as to the reserve in that field. I further feel that any estimate based upon a part of the wells in the oil area which do not include the majority of those wells would also lead to an erroneous conclusion.

I feel that insofar as my evidence concerning the total barrels of oil underlaying an average acre in the Turner Valley field, that it has been supported by both Mr. Link's and Mr. Davies' testimony when the figures that they use are intelligently applied to the problem of sub-surface space in the reservoir.

Q THE CHAIRMAN: What I had particularly in mind was your cross-examination as to the value of Exhibits "26" and "27".

A Oh, I feel as far as Exhibits "26" and "27" are concerned that they are useless for the purposes of this Commission, and I believe that Mr. Link admitted as much in the cross-examination this afternoon.

Q THE CHAIRMAN: Well, that is for us?

A Yes.

MR. FRAWLEY: Yes. Why do you say that, have you anything of value to offer the Commission why you say you believe them to be useless?

A In the first place, Exhibit "26", which contains the so-called indices of the porosity may be interpreted over a wide range of thickness and porosity. The cross-section which that shows through the fault in the south end of the field is based upon a lot of actual information. In the centre of the field it is based upon a very small amount of information and still less information in the north end of the field. Furthermore, the cross-section does not lend itself to any analysis of the actual porous conditions in that reservoir. The figures which are on there and their meaning are, as Mr. Link has pointed out, are only relative and have no actual value that can be

used at all.

Referring to Exhibit "27" it shows only the lower porous zone in the reservoir and Mr. Link has admitted that he did not take into consideration the upper porous zone in making that map; therefore, it can represent nothing but the lower porous zone. Mr. Link has also admitted that the top porous zone varies in porosity all over the field; has also stated that the lower porous zone, where it is known, varies throughout the field, therefore, it is obviously of no value in arriving at an estimate of the average porosity displacement in both the upper and lower zones throughout the field area. It is my opinion that neither of these Exhibits have any value of any kind other than showing that conditions throughout the field do vary between rather wide limits and that any estimate that is based upon the records of a few wells in a particular area of the field are absolutely worthless.

Q MR. FRAWLEY: Dr. Boatright, is the performance at the Home-Millarville well, such as we have it to date, of any value to you in making your submissions to this Commission?

A It is of value in this respect, the Home-Millarville well, which was not completed at the time I drew my possible productive acreage maps, lies within the area assigned to that possible productive acreage. It is of interest too, and in that connection, that it also lies within the so-called possible productive acreage which Mr. Link has set forth.

Q Now, we may pass, perhaps, to the examination of the evidence of Mr. Davies, and I was asking you to-day, if

you would, summarize the treatment which Mr. Davies gave to the bottom-hole pressure data which he has assembled?

A Mr. Davies in his testimony showed that he based his estimate of reserves upon the bottom-hole pressures existing in certain wells in the so-called Area A, which he defined; those bottom-hole pressure areas he assumed were based upon estimates in at least a portion of the cases, in a few instances he had the actual bottom-hole pressure;; he further admitted that those bottom-hole pressures that he estimated were not based upon an average pressure gradient of 36 pounds per hundred feet below the levels of 4,000 feet above sea level, although he had depended upon Mr. Link for information of that type, and Mr. Link had admitted that that is the figure that he has been using for approximately the last ten years; furthermore, the final bottom-hole pressure upon which his estimate was based was taken for the month of November, whereas the gas-oil ratios which he used were taken for the month of October; in spite of the fact that since September, 1938, there had admittedly been a gradual increase in bottom-hole pressures throughout the field because of the restriction in production which has taken place since that time. I might point out in that connection that those two bottom-hole pressures rather went to the fundamentals of Mr. Davies' method of arriving at the recoverable reserves in the Turner Valley field because he takes as one of his fundamental criterions in that calculation the ratio between the

pressure drop that occurred between the time when the well came in and November. He admitted in effect that he had estimated the original bottom-hole pressure upon which that estimate was based. He further admitted that that estimate had not taken into consideration certain well-known facts insofar as he was concerned. The second bottom-hole pressure that he took was taken a month after the gas-oil ratio which he used in that same fundamental calculation, in spite of the fact that he knew that the gas-oil ratio was a function of that bottom-hole pressure.

As an illustration let me use figures. If we assume that a well produces from the time it came in until November a total of 10,000,000 cubic feet of gas, let us assume that at the beginning of that time the bottom hole pressure was 1500 pounds; let us assume that the pressure at the end of that 10,000,000 cubic feet of production was 500 pounds, using Mr. Davies' method of calculation, then he took the figure 500 pounds which is the bottom hole pressure at this time and divided it by the bottom hole drop which had occurred during the production of that 10,000,000 barrels, giving a ratio of 500 divided by 1000, or one-half. He then applied that figure one-half against the 10,000,000 barrels or 10,000,000 cubic feet of gas which gave him a figure of 5,000,000 million cubic feet of gas. He then took the gas-oil ratio based upon the above bottom hole pressure, which for the sake of this illustration I will assume was 20,000 feet per barrel. If we divide 20,000 feet

per barrel into 5,000,000 feet that then gives us a recoverable reserve of 250 barrels of oil. Now to point out the fallacy of that method, and how big a change relatively a small error in either of the bottom hole pressures would make, let us assume that the pressures instead of being 1500 pounds were actually 1400 pounds, and that instead of being 500 pounds at the end they were 600 pounds at the end. That then would give us a ratio of 6 over 14, or 3/7ths. The figure of 3/7th applied against the 5,000,000 against the 10,000,000 that should be, would give us the figure of 4,290,000, which divided by 20,000 feet per barrel would give us a reserve of approximately 1200 barrels per acre. In other words, that would be about four or five times the amount of oil that Mr. Davies estimated on on those same figures. That of course does not take into consideration the error that was introduced by assuming the wrong gas-oil ratio to start with.

NOTE: Dr. Boatright corrected the above calculation at the resumption of hearings on Saturday morning, December 17th.

Mr. Davies assumed that the gas-oil ratio varied with the bottom hole pressure. The bottom hole pressure in turn varied with the production rate of the well, which he did not know, and also varied with the gas-oil ratios and the rate of production of wells immediately surrounding it, within its area of influence. Mr. Davies admitted that he knew nothing about the relative effects of these external wells and knew nothing about the rate at which that particular well was being produced, although he realized that at the rate at which

it was being produced would effect its gas-oil ratios at any given time. In spite of that fact he took the gas-oil ratios that incidentally occurred on the particular day when the test was taken, and used that as a basis for all of his calculations. He further took the gas-oil ratios in admittedly a high gas-oil ratio area and those gas-oil ratios were about six times as high as the area immediately to the west, which he also admitted would be more representative of the balance of the oil field, if there is any oil field there. Using those figures he arrives at the total proven amount of production which would enable at the present rate of utilization two years' supply. Using those same figures of Mr. Davies' and taking into consideration the fact that the gas-oil ratio in his Area A was one-sixth of his Area B, I have shown by a calculation throughout, that his figures should have been, for a reasonable figure, approximately 20,000 barrels per acre, instead of the 6,555 barrels which he used, the exact figure, of course, being 19,700 barrels per acre, which was arrived at by weighing the 6,555 barrels per acre in the Area A with the amount of production he should have assigned to Area B on the basis of the lower gas-oil ratios in Area B, that ratio being, of course, about 1 to 6; that 20,000 barrels per acre figure, which, of course, he only applied to the actual proven area, that proven area being the areas immediately surrounding wells which are already completed and amounting to about a total of 3933 acres, gave the two year supply , which he estimated. The figure which I used in applying to my probably productive acreage amounts to 17,000 barrels

per acre, compared to 20,000 barrels per acre which Mr. Davies would have gotten had he taken into consideration the difference in gas-oil ratios between Area A and Area B and in spite of his using admittedly poor criterions for those figures. Applying the figure of 17,000 barrels per acre, which was low under that basis, to an oil area that is amaller than the area assigned by Mr. Link as his possible acreage, I arrived at the figure of 171,000,000 barrels of oil, and naphtha still to be produced. At the present rate of consumption that amounts to about thirty-one years' production. I still feel, after going over all of Mr. Davies' and Mr. Link's testimony, that that figure is reasonable. I have shown that, based upon calculations in the gas-cap, upon the actual displacement per acre, that I could have taken a figure as high as 170,000 barrels per acre and justified it. Over three times the figure I actually took. That is the total displacement under the ground. Now, the recoverables, using the wells which have been completed between the period 1937 and 1938, all of the wells which have been completed during that period and taking the same type of calculation, I arrived at the figure of 183,000 barrels per acre, on the basis of sub-surface displacement. That again is almost three times the actual figure which I used, of 62,200, and some odd barrels per acre, as being the amount of oil in place underground; using that figure and applying the displacement factor of 45%, to take care of the space occupied by gas and gas in solution in the oil, I find that the

Boatright first method

Boatright second method

Boatright third method

recoverable oil per acre would be 17,000 barrels. Relating to Mr. Link's testimony, Mr. Link admitted on the witness stand during his first cross-examination, that his estimate of the total amount or thickness of void space would be equivalent to saying that there is four feet of void space underlying each acre. That corresponds with the effective figure which I used, of four and a half feet. It seems to me that the figure which I gave was fairly conservative.

Q Dr. Boatright, I presume that you feel that it is your duty here to give to the Commission the benefit of your opinion with respect to the reserves in that part of Turner Valley where the drill has not yet gone down, and you have endeavoured to do that?

A That is right.

Q And will you tell me whether or not, Mr. Link, Dr. Link and Mr. Davies, have attempted to give to the Commission the benefit of their opinions with respect to that part of Turner Valley where the drill has not gone down?

A They have not only failed to do that, they have failed to even take into consideration the gas-cap area; they have failed to make any calculation of the probable amount of gas that is in that area in spite of the fact that that area has certainly a very definite effect upon the area A which Mr. Davies set up; that area was entirely disregarded in their estimates, as was the area west of the absolutely proven area as shown by the drill.

Q Now, Dr. Boatright, I now intend to ask you.....

Q THE CHAIRMAN: Before you leave that, your cross-

examination of one witness indicated the view which you may or may not be prepared to swear to, that it was proper practice and well-known practice on the part of engineers, petroleum engineers, to make estimates of the character which you have made, over territory which has not been proven by the drill?

A That is absolutely correct. It is very common and in fact practically the whole oil business is based upon estimates of that type. We admit, of course, that they probably are not 100% correct because the basic data from which those estimates are made are themselves not 100% correct, and there has been no attempt on my part to claim that they were. They are the best evidence which we have and the est mates must be based upon reasonable assumptions. However, it is not an uncommon practice. It is followed every day in practically every oil field in the world. The financing of the oil business is carried on upon that basis. It is absolutely impossible, of course, to see into the future and tell exactly what any given lease is going to produce, even although there is an oil well on it, and yet Banks every day are lending money on engineering reports as to the amount of oil which will be recovered from acreage which is actually proven by the well or drill and also acreage which probably will be proven by the drill. Those estimates, of course, are no better than the reputation of the engineers who make them but, nevertheless, throughout the United States and over the United States as a whole, estimates of possible reserves are made every day.

As a case in point I might show some estimates of the total reserves of the United States which were made for last year, by four different responsible societies in the United States.

Q That is a periodical you are referring to?

A yes.

Q I am afraid it is not permissible, Dr. Boatright.

A Well, I can give you the figures fairly closely. The greatest variation expressed in millions was about three out of fifty-five or about 20%. The figures agreed within about 20% on an area as large as the United States and calculated from four different sources of information. Those calculations are commonly made and the oil business is conducted on the basis of those calculations. This Turner Valley field admittedly may be different from any other field in the world.

In fact, I know of no two fields that are identical. It is not, however, an exceptionally difficult field. True, the drilling depths are deep but there are deeper wells. True, the wells cost a great deal of money to drill, and there has been money spent on those wells but at the same time there has been more money spent on wells in certain other territories than has been spent on wells in the Turner Valley field. It is true that the field is a lime field but there are other known lime fields. In other words, in my estimation there is no reason why the Turner Valley field could not be given a reasonable estimate of probable production to be expected therefrom.

Q Dr. Boatright, may I, is it right then for me to

understand there that, and from the experience you have had as a petroleum engineer, that courts, from time to time, are making judgments and Commissions are from time to time making findings based upon the kind of evidence which you have offered to this Commission with respect to oil reserves in areas or parts of areas where the drill has not yet gone down?

A That is absolutely correct.

Q MAJOR LIPSETT: If I may interrupt for a moment before you pass from that; Dr. Boatright, you know the available data and history of this field now, in your opinion have you sufficient data about this field to enable you to give an opinion, I do not mean a certainty, but an opinion with reasonable certainty as to its area?

A I feel I have and I feel the figure which I gave you as being the probable recovery based upon, of course, good production practice, will be about correct.

Q You think that you have sufficient data?

A I feel that I have sufficient data upon which to base a reasonable estimate.

Q MR. FRAWLEY: Now, passing from that then, , if I may, Dr. Boatright, will you summarize Mr. Davies' treatment, if you have not already satisfactorily done so, summarize Mr. Davies' treatment of the data with respect to gas-oil ratios?

THE CHAIRMAN: You have had a long day, Dr. Boatright, are you tired, would you like to stop?

A No, I believe not. I am a little hoarse.

Q THE CHAIRMAN: You are not tired?

A No, I am not tired, so far as being tired is concerned.

I believe, Mr. Frawley, that I have covered that pretty well, unless there are some points which I may have missed.

Q In dealing with the bottom-hole pressure data?

A Yes, I believe I have covered that also.

Q Now, do you care to say anything as to what significance you attach to that Exhibit "22", the chart of absorption gasoline, which Mr. Davies presented, is that sufficiently important for you to commence particularly upon it?

A Yes, that merely brings out another source of error in Mr. Davies' calculation and that is this, that the amount of oil which has been produced from the Turner Valley field has been, partly at least, a function of the pressure which was held on the separators in that field. There has been no record kept of those pressures all over the field and that has introduced an additional error which he did not take into consideration.

Q Now, will you calculate for the Commission the reserveir displacement on the basis of Mr. Davies' figures?

A I believe that Mr. Davies arrived at a figure of 19,700 barrels per acre based upon the figures which I gave him, which in turn assumed 6,555 barrels per acre for Area A and the production which would be expected from Area B if the gas-oil ratio in Area B were one-sixth that of Area A. He also admitted that that was the approximate ratio of the gas-oil ratios in Areas A and B. Using that figure of 19,700 barrels per acre, applying it to Mr. Link's proven area of 3933 acres, gives a figure of approximately seventy-seven and a half million barrels. Applying that same figure to Mr. Link's possible productive acreage, which amounted to 17,187 acres,

gives a figure of approximately 338,600,000 barrels, which, at five and a half million barrels per year, would be something over sixty years' oil supply.

Q Yes?

A Applying that same calculation to the figure for the proven reserves, as shown by the actual wells drilled at the present time, would give about fourteen years' life to the field.

Q Now, Dr. Boatright, will you give me your opinion as to whether this field is a gas field or an oil field, and your reasons for saying so?

A My opinion is that the Turner Valley field is very definitely an oil field, and my reason for saying that is that I feel that the value of the oil which may be recovered from that field is far in excess of any possible value that they may be able to obtain from the gas. I feel that in order to obtain the maximum production of oil from the field and to best conserve the interests of the field, that the gas-cap should be shut in and that further the gas that is produced with the oil and not utilized in legitimate enterprizes should be returned to the sand. The people of Canada have a valuable asset in the Turner Valley field and if it is properly conserved it will serve as a national resource for years to come. However, if it is allowed to continue under the production practices that have obtained in the past the field will be very prematurely ruined. As I said before, the field is not a big mystery. True, some of the problems of the field are difficult, more difficult than the problems in some other fields but there are

other fields in which every problem that has been encountered in Turner Valley has previously been encountered.

Q THE CHAIRMAN: Now, I think perhaps that might be pursued. It is suggested that under improper practices the life of the field might be short. Now, it would be of interest to know in what way those practices are to be controlled.

MR. FRAWLEY: Yes.

THE CHAIRMAN: It has a very direct bearing on the problems in front of us.

MR. FRAWLEY: Yes.

MR. FRAWLEY: Will you offer to the Commission, Dr. Boatright, your opinion, it is a broad subject, but cover the matter as fully as you think you should, as to what should be the control imposed upon the operation of this field, to assure the proper production out of it?

A The wastage of gas should be stopped immediately. That is a fundamental. The proper operation of any oil field....

Q THE CHAIRMAN: You are speaking now of governmental control?

A Yes, I am, if necessary.

Q MAJOR LIPSETT: And are you speaking of just the gas going up in the flare?

A No, I am not. All of the gas should be returned to the sand in any field. It is true that in America that principle has not been followed and as a result they have reached the point now where economic conditions prohibit any such move, but, after all, oil and gas are natural

resources and a field should be pro-rated upon the basis of the gas utilization rather than the oil utilization. That would be true conservation. As I say, that would be an economic impossibility in the United States. You here in Canada are fortunate in one respect, that it is not an economic impossibility here. Gas is the very life-blood of the Turner Valley field. In the first place, it provides the energy for lifting the oil cheaply. That does not mean that the oil cannot be lifted after the gas is gone. They are doing it every day. There are mechanical contrivances, such as pumps, there are other contrivances such as gas-lifts and others too numerous to mention, which could be utilized to lift oil. However, if the gas pressure in the field, and the gas itself, which is the lifting medium for the oil, is conserved by putting every bit of gas back that is not profitably used on the surface, the flow lift of the field will be prolonged indefinitely and the efficacy of the oil flow through the reservoir will be increased by virtue of the benefecial effect of pressure, and gas in solution upon the flowing characteristics of that oil and by the reduced rate of flow which will occur under proper gas control rules. After all, an oil field is nothing but a pipeline. The well can be considered as a series of little pipelines radiating out from that well. The porosity of the formation in that well tells you the number or the total openings that that pipeline gives, this thing which we have been talking about as - "permeability" simply tells us how many of these little pipelines are in there and determines the resistance to the flow. If we have a 10 inch pipeline it has a

certain cross-sectional area and a certain circumference, against that oil must flow, causing a friction loss or pressure drop, that uses up energy. If instead of having one 10 inch pipe we have several smaller pipes, although their cross-sectional area may sum up to be the area of 10 inches, still the amount of energy that it takes to move that equivalent amount of oil through those pipes will be greater. If we are moving vaseline through that pipe instead of, we will say, gasoline, obviously it is going to take a lot more pressure to move it through there. That is the equivalent to saying if we could keep the gas in solution in the oil in the reservoir we could keep the oil in the reservoir at the lowest viscosity or lowest resistance to flow and as a result it does not take as much energy to move that oil through the formation so pressure maintenance in the true sense, and by that I mean putting back every foot of gas that is not needed for actual human needs, will tend to give the greatest ultimate recovery from the field.

Q What you say then, Dr. Boatright, is that if that has not been done, I suppose you have no detailed knowledge of what the policies of the Conservation Board have been to date?

A Just general. I have a pretty fair general knowledge but not a detailed one.

Q Yes , and if whether or not that has been their decided policy to date under either the first Statute or the second one, I take it to be that you are offering the opinion to this Commission that their control should be

exercised in the manner in which you have indicated to the Commission now?

A That is right.

Q THE CHAIRMAN: Before we proceed from that question, what have you to say as to what Mr. Davies suggested about circumstances under which a certain amount of oil would be left in the rock and be forever irrecoverable because of the lack of proper mixture of gas and oil, plus pressure?

A The oil well which Mr. Davies was talking about at the time he made that statement was primarily a distillate well and it had been produced at an exorbitant rate of flow.

Q That is the first time you have used the word "distillate" well.

A I am using the term "distillate" in the same sense as "naphtha". That naphtha or distillate occurs in the reservoir as a gas, it is not as an oil, it is as a gas in the reservoir and is brought to the surface under gradually decreasing pressures, carried through the separator under temperature and pressure control, and the amount of moisture which will drop out is "distillate". If we assume that the gas passes from the separator to the gasoline plant an additional amount will be taken out, which is not condensible at the particular separator temperature and pressure which has happened to be used. However, if that reservoir pressure is maintained that condensation or distillate or [illegible]

or naphtha or gasoline, whatever remains, will remain in the gaseous phase in the reservoir, and if production is maintained, or rather stopped, in a well of that type, that oil that flowed up and contaminated that distillate from some place down structure, will go to the proper well that it should have gone to originally, and eventually will be recovered. Now, it may be that the man who owns the gas well will not recover that oil, but he was not entitled to it in the first place anyhow. He got it by producing his well at a high rate of flow with an enormous wastage of gas and he causes an additional wastage in the reservoir because of the fact that if you have a certain recoverable amount of oil per acre underlying one acre and you move that over into the gas-cap and in the one acre, we will say, that 25% of the oil was recoverable and you take a certain amount of that oil and move it over here and only 25% of that is recoverable and the oil which is moved over into the gas area only one-quarter of 25% would be recoverable; in other words, the man that owns that gas well up on top of the gas-cap, he says he cannot afford to close in his gas well because he would cause oil migration there to the off-set lease or well. He, in effect, is saying this, that he cannot produce 25% of the oil which has migrated from the oil horizon into the gas horizon, and of which only 25% could migrate in the first place; in other words, the man with the gas well, who has caused oil to migrate, is getting a 6% recovery of oil from the reservoir instead of the 25 or 27 or 30 per cent. that he normally could have expected, had his well been an oil well in the true

sense. There is the additional loss that has occurred in the Turner Valley field and that may possibly occur to some extent in the future, although it is pretty hopeless because of the low pressure, that is due to this phenomena which is known as retrograde condensation. It so happens that at pressures from zero to some place between 800 and 1100 pounds, and I do not know, because so far as Turner Valley is concerned, what that pressure is, because it would require some test of the particular gas and distillate, but at some pressure, which for convenience we will call about a thousand pounds, I know within reason that it is pretty close to that, the ordinary laws of physics which control the precipitation of gasoline and naphtha from natural gas are in effect. That simply says that if the gas is saturated at a certain pressure with gasoline and you keep the temperature constant and double that prewsure, one-half of that gasoline will drop out. Now, that law holds true until you get the pressures about a thousand pounds. After you pass a thousand pounds the reverse is true. If you have the gas and gasoline in a container and raise the pressure even a thousand pounds approximately, some of the gasoline in the liquid phase will pass out into the vapour phase. That amounts to saying this, if we have a gas at 2,000 pounds and we reduce the pressure down to 1900 pounds at some given temperature a certain amount of that gasoline or naphtha will drop out, and it so happens that the gravity of the naphtha which drops out at that dropping will be of greater

gravity, or, that is, it will be heavier than the gravity of the products which will drop out between 2,000 and 1800. That holds true down the scale until finally you get to the point at which retrograde condensation stops. Then when you go lower your recoveries drop again, that is, they reach a point of 1,000 pounds approximately and the curve then goes straight down and then the amount of gasoline becomes less and less as you drop the pressure. Because of that fact in the Turner Valley field you have lost approximately 36,000,000 gallons of naphtha in the gas-cap alone, of which about 70 or 80 per cent. could have been recovered under good practices, and I am speaking from experience whem I use that figure, as compared with the approximate 14,000,000 barrels which you may expect now. In addition to that there has been approximately nine hundred billion cubic feet of gas wasted out of the Turner Valley field to date, or about eighteen million dollars worth of gas at the field price of 2¢ a thousand.

As far as the oil areas are concerned and in spite of the fact that the oil area is going to be effected to a certain extent by the wastage of gas because of the pressure reductions which are bound to effect the rest of the field, the oil area has not been damaged as severely as the gas area, and any conservation that can be applied now will be beneficial to the field yet. Of course, it will not be as beneficial as it would have been had it been put into operation at the first.

Q THE CHAIRMAN: I take it that your estimate as to

the life of the field is predicated upon existing conditions plus assuming an effective control in the future?

A No, my estimate of production is based upon present conditions in the field and reasonable efficient production in the future. It is not necessarily based upon closing in the gas-cap. In other words, if the oil wells themselves are reasonably and efficiently produced I feel that my figure will be reached regardless of whether or not the gas-cap is shut in.

Q That is what I wanted to know?

A Yes.

Q MR. FRAWLEY: You have had that in mind from the very beginning of your study?

A That is right.

Q And that is the submission you are making to the Commission?

A That is correct.

Q THE CHAIRMAN: If the gas-cap were shut in, what?

A Then my figure would be raised.

Q To what extent, approximately, if you can say?

A Well, I would say probably 10%, 15%, possibly 20%.

Q And a safe estimate would be?

A I feel a safe estimate of the life of the field under absolutely efficient operation would probably be thirty-five or forty years' life at the present rate of demand at five and half million barrels a year.

Q MR. FRAWLEY: Now, it may have been covered completely by the Chairman's question to you but.....

THE CHAIRMAN: Before you go on I think we will have

equipment but the added safety and convenience would more than off-set the additional cost.

There is another thing that I believe should be done in the field in the near future in order to get a better idea of what the most efficient rates of flow are for the field, and that would be an exhaustive study of the gas-oil ratio in various wells in the field. There may be some of that information already available but so far as I can find out there has been no study made of the effect of rate of production upon gas-oil ratios and for a given amount of oil production the gas-oil ratio determines the amount of energy that will be dissipated from the reservoir and once that energy is dissipated unless the gas is returned that is energy which is lost and can never be utilized for the production of the balance of the oil in the field.

Q I presume you relate this controlled drilling to a better recovery from the field?

A It would give the well an opportunity to produce to its full ability.

Q MAJOR LIPSETT: Would that again alter your figure of the productivity of the entire field?

A That would tend to increase it, if anything. Its primary value would be the increasing of a well's productivity, the individual well's productivity, and would not necessarily affect the ultimate production to be obtained from the field. It might or might not. That would not have such a great effect upon my estimate of reserves. It would, however, give us some very valuable information as to the actual sub-surface conditions in the reservoir.

a short recess.

(An adjournment of the Investigation was here taken for five minutes.)

Q TO MR. FRAWLEY: Dr. Boatright, the chairman raised a question of the more efficient production of this field through the instrumentality of some form of government control, will you give to the Commission the benefit of your opinion as to what benefit might come from what is known as controlled drilling?

A The use of controlled drilling in the Turner Valley field would be highly desirable.

Q Just explain what you, as an engineer, mean by "controlled drilling"?

A Controlled drilling, of course, refers to the drilling of wells with apparatus designed to bring those wells into production under the best possible conditions. The surface equipment is such that the wells can be drilled through the productive horizon without contaminating that productive horizon with drilling fluid. It has the added advantage of the operators knowing that if two horizons are present, the well can be produced at the same time. The drilling is progressive to the second horizon. As an example, if that sort of drilling were being used on the Home-Millarville well it would be possible for them to produce that upper horizon in which they now are and still continue their drilling to the lower horizon. It would avoid entirely the possibility of the contamination of the porous section by either water, mud, or whatever the drilling fluid happened to be. The equipment is slightly more expensive than ordinary rotary

Dr. Boatright, Recall-Dr. Ex.

Q It would add to the knowledge to the operator, which I take it to be of prime importance to the proper recovery of the field?

A That is right, it would give information that at present is not available and which is highly desirable in an intelligent operation of that field to the best possible advantage.

MAJOR LIPSETT: Thank you.

MR. FRAWLEY: Mr. Chairman, my friend and I agree that we, perhaps, were a little optimistic as to the length of time this evening session should last.

Q THE CHAIRMAN: Just before you proceed, I just want to be quite clear one way or the other, your present estimate of reserves and secondly the life of the field at the present rate of consumption, is based upon present conditions with present control as now exercised?

A That is right.

MR. FRAWLEY: And if those things, that is as clear as I can make it. I was going to apply to you, Mr. Chairman, and say that I think that we have been, perhaps, a little optimistic in arranging to stay for two hours to-night, and my friend joins with me in the suggestion that we might very well adjourn now until to-morrow morning. We have had more than a full day and a very tiring day, and Dr. Boatright must be very tired, although he has been very good to offer to continue. I think, perhaps, in the interests of everybody we should adjourn now, if it meets with your approval.

THE CHAIRMAN: Very well, we will grant the application

(The Hearing was here adjourned and resumed at 10:30 a. m. December 17th, 1938.)

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7

The Province of Alberta

IN THE MATTER OF THE PUBLIC INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the 12th day of October, A.D. 1938, to inquire into matters connected with Petroleum and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY (*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta DECEMBER 17th, 1938

VOLUME 7

I N D E X

VOLUME 7. Page.

Witnesses:

.....

Saturday, December 17th, 1938.
10:30 a. m. Session.

DR. BYRON B. BOATRIGHT, having been recalled, examination by Mr. Frawley continued:

THE CHAIRMAN: All right.

Q MR. FRAWLEY: Dr. Boatright, I believe your attention has been called to an error in last night's evidence due to an arithmetical error which was made, will you explain it to the Commission?

A Yes, that is correct. Last night during the calculation of the error that might be possible by introducing, by changing the initial and final pressures in Mr. Davies' method of estimating, I made the assumption that a well had produced 10,000,000 cubic feet of gas with an original pressure of 1500 pounds, and a final pressure of 500 pounds. Using those figures, I arrived at a figure of 250 barrels of oil represented in the ground by the remaining gas, estimated by that method. Then, in an endeavour to show the error that would be introduced by 100 pounds difference in the two pressures, in other words, the 1500 pressure being 1400 pounds pressure and the final figure being 600 instead of 500, I arrived at a figure of 1200 barrels, which should have been 375 barrels. The mistake was an arithmetical one and, of course, was not intentional, but if those figures are corrected the answer will be 375, which is a 50% increase in expected recovery instead of the four or five times that I stated last night. I have corrected the figures that were given, and if it is permissible, I would like to have those inserted in the places of the ones which were given.

NOTE: See Page 623.

Q Or some or any other method which will call the attention of the Commission to where the error occurred, some notes made by the Reporter as the makes the transcript.

MAJOR LIPSETT: It was just a mistake in working out the arithmetic.

WITNESS: Quite so.

MR. FRAWLEY: But it would be well to have it at the place, some notes made, "This corrected later", or something like that.

THE CHAIRMAN: We think we will be able to find it.

MAJOR LIPSETT: Mr. Frawley, may I interrupt for a moment?

MR. FRAWLEY: Certainly.

Q MAJOR LIPSETT: I appreciate the factor of error which you drew attention to, by taking the gas-oil ratio in October and the pressure in November?

A Yes.

Q In your illustration?

A Yes.

Q There is one factor of error that you drew attention to?

A Quite.

Q Is there a second one then possible, of error, in the original gas-oil ratio figure?

A There are two possibilities of error, one is in, you see the original pressure, in some of these cases at least, had to be assumed, he didn't have the actual figure, and then the final figure was taken as of November, whereas the gas-oil ratio was taken actually in October, and that introduces the gas-oil ratio error and there have also been introduced an error on account of the assumption

of the bottom-hole pressure, so there are two sources of errors in the calculation, the one is the gas-oil ratio, the other is the difference in the pressure drop that would be obtained by different assumptions. You understand, of course, that figure of 100 pounds difference at both ends was taken merely as an assumption.

Q Oh, yes, thank you.

Q MR. FRAWLEY: Now, the next thing I want to ask you is what significance do you attach to the calculation made by Mr. Davies, I think at your request, with respect to the Davies No. 2 well?

A That calculation merely showed that had the information from the Davi No. 2 well been interpreted in the way I think it should have been interpreted, that it would have checked very closely my estimates of total oil in the reservoir. I believe that the figure worked out ought to be approximately 60,000 barrels per acre, as compared to the sixty-two thousand some odd barrels per acre, which I estimated in making my report.

Q Yes. Now, will you mark on the map the following wells which were not taken into account by Mr. Davies, Anglo 1, West Turner, Command, Producers' Crude, and Home-Millarville, and make such comment as you think is warranted with respect to those, to this Commission?

A These wells were plotted upon that Exhibit of Mr. Davies. Referring to Exhibit "23" these wells which you named, namely, Anglo Canadian No. 1, Command, Producers' Crude and Home-Millarville.

Q And West Turner?

A And West Turner, are all outside to the west of Mr. Davies' Area B. Of course, Home-Millarville is here at

the north end of the field and, of course, it was not included when Mr. Davies made his estimate, nor was it included in Mr. Link's estimate.

Q THE CHAIRMAN: What importance do you attach to the result of the drilling of that well, as to what that has brought about, from what you know now?

A To me it means this, that we have a well clear at the north end of the field and to the west, which has proven to be a commercial oil well and we have the structure between there and the prolific south end of the field, it seems to me it makes more reasonable the assumption that that whole area in between will be productive. Of course, it is admitted that the porosity of the limestone varies from place to place but, nevertheless, that does not change the average conditions in the field, and it simply is an additional piece of evidence that the assumption that oil production may be expected generally between the 2,000 foot and 4,000 foot contour, more reasonable. I might say in that connection that both Anglo-Canadian No. 1 and the Home-Millarville No. 1 are very close to that 4,000 foot contour line. They are between 3500 and 4,000 foot contour line.

Q MR. FRAWLEY: Now, I think I have just one more point for you to take up, Dr. Boatright. Will you refer to statement Nos.4 and 5 and analyze for the Commission, Mr. Davies' statement Nos. 4 and 5, and analyze for the Commission any fallacies which you see in those statements and the deductions made therefrom?

A Well, statement Nos. 4 and 5, Mr. Davies' statement, Nos. 4 and 5, are the starting data for his reserve estimate.

Statement No. 4 refers to Area A and contains all of the information which was necessary to Mr. Davies' calculation of the reserves underlying that area, I should say recoverable reserves underlying that area. Table "B" is not as complete and merely shows a portion of the information that was contained in Table 4. Because of the fact that Mr. Davies in making his estimate of Area B simply assumed that the area would produce an additional amount of oil over that estimated for Area A equal to the amount of oil that had been produced up to the time covered by his estimate. Now, his assumption has an element of error inasmuch as the bottom-hole pressure is taken at the beginning of his productive period. He admitted that in some instances he did have the actual bottom-hole pressures measured by approved methods but that at least in a portion of the cases he did not have the correct bottom-hole pressure, and had to estimate that bottom-hole pressure. He further admitted that those estimates were not based upon a pressure gradient of 36 pounds per hundred feet below the surface elevation of 4,000 feet, although all the evidence in the field points to the correctness of that particular figure. Another element of error that was introduced was by taking the gas-oil ratio for the previous month at a time when the bottom-hole pressures in the field as a whole were rising. The final bottom-hole pressure, of course, was taken a month later and was based upon the best information available. The majority of these wells were measured with bottom-hole pressure instruments and it is possible all of them were.

Another element of error that was introduced was in Mr. Davies' failure to take into consideration the rate at which the wells were flowing at the time those gas-oil ratios were taken. In other words, previous testimony had brought out that gas-oil ratios are a function of the rate at which the particular well may be producing at the time that gas-oil ratio is taken. All gas-oil ratios from practically infinity to whatever the minimum gas-oil ratio for that particular well may be, can be obtained by changing the conditions under which the well is producing. Therefore, any given gas-oil ratio must merely be the gas-oil ratio at a particular rate of flow. The gas-oil ratios for the various wells, therefore, are not truly comparative and do not represent the true conditions in any given well. That being true them it follows, rather logically, that the sum of those gas-oil ratios will not be a true criterion.

There is the additional error introduced in this respect, the bottom-hole pressure was admittedly the result of the withdrawal of both oil and gas from the sub-surface area immediately surrounding the well, plus the volumetric withdrawals of both oil and gas from wells within the drainage area of that particular well.

There is the further fact that the gas-oil ratio of a particular well at a particular rate of flow will also vary with the bottom-hole pressure. That means then that the gas-oil ratios, to say the least, are not reliable for the purpose of estimating reserves in a field such as Turner Valley unless the various

factors which I have just discussed are taken into consideration, and I believe that in Mr. Davies' estimates those factors were not taken into consideration because many of the factors were not available.

Q Now, then.....

A Just excuse me, that covers statement 4. Of course, all the errors which were introduced by statement 4 were also carried over into statement 5, which applies to Area B.

Q THE CHAIRMAN: You are speaking of statements described by that number in Exhibit "19"?

A Yes.

DR. BOATRIGHT: Will you read that last answer?

(REPORTER- reading) "A Just excuse me, that covers statement 4. Of course, all the errors which were introduced by statement 4 were also carried over into statement 5, which applies to Area B."

THE CHAIRMAN: The statements which you so describe are to be found in Exhibit "19"?

WITNESS: That is right.

Q MR. FRAWLEY: And they are described in that fashion in the report?

A That is right.

Q Mr. Davies' numbers?

A Yes, and statement 4 is page 50 of that report, I believe, and statement 5, page 51.

An additional error is introduced in the calculations for Area B by the fact that although the gas-oil ratios or the average gas-oil ratios of the wells in Area B are only about one-sixth of the gas-oil

ratios in Area A, that fact was not taken into consideration. A portion of the error introduced by his including of that factor was compensated for by the assumption that the average production per acre to date would be in addition to that to be expected from Area A. That amounted to some 1700 barrels per acre, I believe, making the estimated recovery for Area B somewhere in the neighbourhood of 8,000 barrels per acre. He then arrived at an average figure for the two areas by weighting the recovery per acre from Area B and the recovery per acre from Area A, applied against the two acreages, to determine the average. The fact that the gas-oil ratio in Area B was six times approximately the gas-oil ratio in Area A indicates that about six times the recovery should be expected from Area B that can be expected from Area A. That then gives an estimated recovery of approximately 40,000 barrels from Area B, against 6,555 from Area A. Weighting those two averages gives a probable recovery for the whole area, including both Areas A and B of approximately 20,000 barrels per acre as compared with the 17,000 barrels which I used in my report. Carrying that figure on further, the total amount, or area of land included in my probable productive acreage was 10,000 acres. I used a gas-oil contact line of 2,000 feet, and a final line to the west on the 4,000 foot contour. That gave me a figure of productive, of probable productive acreage, of 10,000 acres. Mr. Link in his estimate used the term "possible" to describe acreage of a similar nature, and gave that acreage 17,187 acres, or almost twice the area

which I included. It seems to me that the basis figures which I used in my calculation are reasonable. There is no intention on my part to set them up as absolutely exact figures. Any engineering estimate has to be based upon the best information available. In working out the figures which I have presented here I took into consideration all the various methods of calculating reserves and I took that method which I felt included all of the engineering factors involved and the factors which gave me the minimum recovery to be expected.

Q Now, then, just there, you last night were interrupted in your attempt to answer the Chairman's question with regard to the estimate of reserves in the United States by competent engineers from time to time because you did not have a certain record, will you complete your answer now?

A Yes, in the Oil and Gas Journal on page 108 of the March 17th, 1938, issue, will be found a statement of the estimated reserves yearly, and total production, and well statistics for 1926 to 1937 inclusive. Just to read for the year 1938, I will give three estimates by three different authorities in the United States, one estimate is approximately 13,500,000,000 barrels of oil, as the total ultimate reserve now in the United States in known oil fields. The next estimate is approximately 13,000,000 barrels.....

Q You mean billion?

A Billion, I am sorry, 13,000,000,000 barrels, and the other estimate is approximately fifteen and a half billion barrels of oil. At the present rate of

consumption that means that America has somewhere between ten and fifteen years of proven reserves or probable reserves. The actual known reserves proved by the drill only represent about four and a half or five years. Those figures are not given here, but I happen to know what they are.

Q THE CHAIRMAN: The point you make in that is what?

A Is that two-thirds of the production estimate for the United States is on the basis of estimates similar to the ones we have made here. In other words, it is not unreasonable for engineers to attempt to forecast what will happen in fields, ahead of the drill.

(Page 653 follows.)

THE CHAIRMAN: Dr. Boatright, it has been pointed out that Dr. Link and Mr. Davies may be and are engaged by private corporations. It has been intimated by Counsel for Anglo-Canadian Oils that experts would be here in their employ at their behest. You were invited to come here by Commissinner Frawley?

A That is correct.

Q I want to know what your instructions were when you were asked to make inquiries in this matter with a view to giving evidence. I want to be clear what you were asked to do.

A At the time I was employed for this work I was told by the Solicitor for the Commission Mr. Frawley, that they wished an estimate of the productive life of the oil reserves in the Turner Valley field, that if there was any information I needed for that work it would be obtained for me if possible, from any source whatever. I was told that I was to use every single factor I thought was necessary. There was no attempt of any kind at any time to influence my figures. The figures which I have presented to you are my honest opinion of what those reserves are. As I stated before I am not setting those figures up as exact, but they are my estimate of what the future holds for the Turner Valley field, taking all of the engineering factors into consideration.

MR. FRAWLEY: May I just say, does that apply to any persons who have spoken to you at my request?

A Yes, that is true. Throughout the work that I did every possible facility was placed at my disposal, and

there were no suggestions offered of any kind as to what would be the satisfactory life of the field. They and Mr. Frawley so stated in specific terms at the first of my work, that what they were interested in was the reasonable life of the field, whatever that life might be, and I went to work upon that basis.

THE CHAIRMAN: I hope that Mr. Frawley will not think that this is a reflection in any way. I just merely wanted to get it on the record that this Commission only wants any reasonable finding, it is not concerned where this evidence might lead.

MR. FRAWLEY: Your purpose in arriving at a figure was to do what with it. ~~to show that~~

A To show that figure under proper pipeline pressure.

Q And give it to Mr. Morrison who was also engaged by me to work out some accounting figures?

A That is correct.

Q I want that to be clear, the Chairman of the Conservation Board is the person who contacted you for me and at my request?

A Yes, that is correct.

Q Now any instructions he gave you were they at all in variance with the statements you made?

A No, not in the least. I might say as a matter of fact Mr. Knode was merely an intermediary to put me in contact with you.

Q I think that is clear, but you were really not told very much by me at all. I was not able to give you very many instructions?

A No.

THE CHAIRMAN: No, I can understand that.

MR. LIPSETT: Dr. Boatright, this is only on just one point we touched on last night, andthat was that some difference in results might occur by improved methods of ~~draining~~ drilling. You did not develop that at all. I think it arose in connection with the Home-Willarville well, that in addition to whatever production is on the upper horizon that it would still continue getting that and go down on a lower horizon if modern methods or improved methods were used. I would be glad if you would develop that a little if it is the machinery or the running of a pipeline that is necessary or what?

A It involves primarily surface equipment. It is accomplished by that surface equipment and it simply means that a mixture of gas and oil is used as a circulating medium under pressure to drill through the porous pays instead of the old method whereby water or mud is used. The controlled drilling is really pressure controlled drilling, and simply involves the circulation of mixtures of gas and oil when drilling through pays, and it is kept from exceeding the pressure in the hole at a point above that of the formation so that there is no circulation of that fluid back into the formation, which enables the wells to be brought in, at their maximun potentiality. It also had another very important advantage, and that is in drilling those wells. The actual porous section and its ability to produce is measured, and in that way the gas and oil are able to be accurately measured, and it shows any increase in the gas or oil that is in encountered in

the formation and that becomes immediately apparent on the surface. Pressure controlled drilling gives very accurate information concerning the content of the various porous sections that are drilled through. In addition to that it has a very decided advantage from a safety standpoint, that is, in the prevention of blow-outs and the proper handling of equipment. The use of pressure controlled equipment involves primarily surface equipment and compressed gas or high pressure gas of some sort or other. When I say high pressure that does not mean that the pressure has to be around two or three thousand pounds, but it requires an appreciable pressure of somewhere around 1000 pounds as a general rule. That varies with the depth of the hole and the condition under which the work is being done, but it gives very valuable information, and it is the most modern equipment available for the purpose of drilling oil wells of this particular depth or the situations similar to that which you have in the Turner Valley Oil Field. It is not experimental equipment and it has been used in the most dangerous spots of North America. It is used in high pressure gas areas where you have highly supercharged conditions, and it is also used in several lime fields in America where the conditions are similar to those you have here. They are used in the Big Lake area field in Texas, which is a high pressure field , and there are records available to show that drilling in by using mixed gas and oil have resulted in increased recoveries of at least 100%. Those are actual experiments with high

pressure wells. That field had an original pressure of 2000 pounds and in that field several tests were made by drilling in with water and mud and the drilling by the high pressure method, where gas and oil were circulated. The equipment involved some additional surface expenses, and of course, involves engineering knowledge to operate, but it is merely a matter of educating the crew to handle the equipment, and to have engineers on the job for the necessary engineering part of the work. This equipment is being used practically all over the United States.

Q Is the effect of that that you would get on the one hand possibly more oil out of the particular well, or that you would get the oil at a higher horizon which under the old process you might expect to get at a much lower horizon. In other words, would you expect to get a similar quantity of oil or more?

A I would expect to get more oil out of the well, because the conditions for the oil flow in that well are the most favourable you can have. Whether or not pressure controlled drilling is used in this field would not affect the total amount of oil to be obtained from the field, but itwill affect theprobable total amount of oil from any individual well, and it may affect the total recovery from the field.

THE CHAIRMAN: I think you pointed out last night but I want to be clear on that, that this special equipment involves special advantages?

A Surely.

Q And you think that your thirty year estimate stands, do you.

A Yes, I feel it does. I feel that there are enough

additional factors which I used as safety factors to still justify the figure of 30 years. Admittedly the production factors in the closing in of the gas caps is going to raise the recovery, and I have no argument with that statement, but the figure of 30 years which I gave as my estimate is quite reasonable, and what might reasonably be expected from the Turner Valley field regardless of what heppens, unless, of course, there is a deliberate attempt to ruin the field, which nobody can take into consideration.

MR.NOLAN: Dr. Boatright, if I might be permitted to ask you a few general questions, taking your evidence I see down in the earth limestone the width or depth or thickness I suppose is the proper expression of 170 feet that limestone you say is about, and 5% porosity and that is an estimate?

A Yes.

Q And you say that there is a four and a half foot void space in that lime, is that right,Doctor?

A I believe the figure is 8 feet 5 times 170.

Q But of that you are taking only four and a half feet?

A Approximately four and a half feet is considered as being oil contained.

Q Four and a half feet is considered as being oil contained?

A That is right.

Q That is the oil container, may I call it that?

A Yes, in other words that is the amount of space that is occupied by oil.

Q And based upon these three factors, the thickness of the lime at 170, the amount of porosity at 5, the thickness

of the void space at 4½, you reach the conclusions to which you have come as to the estimate of recovery there is in this field.

A That is correct. However, I would like to point out that before that figure was finally accepted additional calculations were made and that in those calculations I found that in the gas cap area there was approximat4ly three times as much space as I estimated, and that considering all of the oil wells which had been drilled in 1937 and 1938, these also indicated that there was three times as much space underlying these wells or these areas as I was assuming on my estimate based on porosity. I also took into consideration the matter of gas-oil ratios but decided at an early date in my investigation that that was not a proper method of estimating the reserves.

Q But don't we get down to the four and a half feet of void space there?

A Yes, that is the figure I used, that is correct.

Q And on that figure you arrived at a recoverable reserve of 170,000,000 barrels approximately.

A Yes.

Q And if your estimate of four and a half feet of void space is wrong to the extent of one foot, that would reduce your amount of estimated recoverable reserves by approximately 20%?

A That is correct.

Q So that instead of 170,000,000 we would have 170,000,000 less 34,000,000?

A That is correct.

Q Andif our void space was reduced by another 20% we would again have another reduction of 34,000,000, making

in all 68,000,000 in your estimate of recoverable reserve.

A That is right.

Q Applying that to the estimated amount again instead of having 17,000 per acre we would have 17,000 less 3400 if we were one foot out, and less 3400 more if we were two feet out.

A Yes.

Q I am not asking you to admit, Doctor, that you are out in your estimate, but I put it to you as a layman if you are out that is the result.

A Well not necessarily, it may also be possible that the thickness is another foot greater, and the porosity is another per cent greater. In other words, the assumption you are speaking of may apply in both directions.

Q All right. If the porosity is higher the recovery is greater, and if the thickness of the void space is greater, the recovery is greater?

A That is correct.

Q That applies both ways?

A Yes.

Q You have given an estimated 5% porosity, Mr. Boatright,

A Yes.

Q If it were 4% would it make much difference?

A Yes, it would.

Q Would it make any difference in your estimate of recoverable reserves, the difference between 4% porosity and 5% porosity?

A Yes.

Q How much?

A About 20%.

Q About 20%?

A Yes.

Q Just as is the case in the thickness of the void spaces?

A Yes, that is correct.

Q Well then, Doctor, the assumption is, and your estimates are based upon it, that this void space is to be found, I take it, throughout the length and breadth of these 10,000, as you would call them, probable acres?

A That is correct. That would be the average. It would be much greater in certain places, and much less in other spots, but the over-all average would be about that on a porosity of 5% over 170 foot section.

Q With four and a half?

A Actual oil content.

Q Because we know, do we not, Mr. Boatright, that it does not edtend over the whole area, that this condition that we are discussing now and asking you about does not exist all through the horizon throughout that 10,000 acres, don't we?

A We know it varies from place to place in that horizon.

Q Well we know there are some dry holes in that area?

A We know that there have been some dry holes drilled in what is known to be the productive area.

Q In this probable area?

A No, I believe not.

Q Well, where are these wells Brown No. 3 and the Dalhousie No. 8?

A Those two wells are right here, (Indicating).

Q Are they in your probable area?

A I will have to check that on the map, I can't tell you that right now.

THE CHAIRMAN: Where are those maps?

(Maps produced).

MR. NOLAN: Here are the maps?

A Brown No. 3 is not and Dalhousie No. 8 is right on my line in my area.

Q Now if our void space has a 5% porosity, our oil content below that, what has happened? That is just a layman's question, but what has happened down at the bottom of the well?

A You are referring now to Dalhousie No. 8.

Q Yes?

A Here is what happened in my opinion. It may have been that it was due to the peculiar condidions under which that limestone was laid down that the porosity was there, and things might have happened to have sealed up that porous space with calcite or by some other natural phenomenon. The fact remains, nevertheless, that upon the best information which we have at the present time, Dalhousie No. 8 had little or no porosity in the lime sections where it should have been expected.

Q Well, my point is this, that if Company "A" drills a well in the probable area, and gets nothing, it would necessarily fall, - on 40 may I say,- that Company "B" on another 40 acres would have to have a recovery of very much greater than your figure of 17,000 barrels per acre in order to keep up this average?

A Certainly. As I understand your argument, it simply amounts to this that on over-all average we must have sufficient recovery to justify the expense of drilling holes and that statement is absolutely correct.

Q What I cannot understand as a private citizen is how you know that we are going to get anything when you go down in

any place in those 10,000 probable acres, when you have instances where people that go down get nothing.

A And you also have instances where possibly they don't get anything or get a small amount of production, and surrounded on all sides by production. That is the history of all limestone fields.

Q You said yesterday, Dr. Boatright, that there is a variation of course, in the porosity?

A That is correct.

Q And the conditions throughout the field, and we mean our Turner Valley field, vary within wide limits?

A That is right, there is no argument with that at all, and that point simply brings out the fact as I have pointed out numerous times throughout this investigation on arriving at any general figure at all, it is necessary to take into consideration all of the best information possible, and from a great number of wells

Q This 31 year figure, Dr. Boatright, is based again on a requirement of 15,000 barrels a day?

A That is correct.

Q A market requirement of 15,000 barrels a day.

A That is correct.

Q Now it would be fair to assume, I take it, that market requirements will govern?

A Yes.

Q That being so, there will be more produced and the life of the field will be lessened?

A Not necessarily, if that field was properly pro-rated there is a certain maximum amount of oil that can be taken out of any given number of wells and market demand

should not be allowed to set a figure of field production which exceeds that maximum.

Q Well, how will that maximum be fixed?

A I do not know.

Q At the moment it is 15,000 per day?

A No, it is 12,500.

Q At this moment it is 12,500?

A Yes.

Q You have fixed a figure of 15,000?

A Yes, that was the average.

Q For the whole?

A Yes.

Q Since the Board came in?

A The year's average.

Q That is the average for the year?

A Yes.

Q But if we extract this oil from these acres in the Turner Valley field at a more rapid rate, will not the life of the field be necessarily reduced?

A Yes, of course, if your assumption that the field will be producing at a more rapid rate is correct.

Q Then we cut down the life of the field?

A Certainly.

Q You said one thing that interested me, not yesterday but some time ago, Dr. Boatright, that the cost of production does not fix the price of crude?

A In Canada.

Q In Canada?

A Yes.

Q I am sure the Commission would be interested to know what does fix the price of crude?

A In Canada?

Q Yes?

A The price which is received for the Turner Valley crude I believe depends primarily upon competitive prices in the United States, and the price of crude that is in Turner Valley is, of course, controlled by the Company which you represent, and you probably know more about that particular phase of the subject than I do.

Q I will not admit that, Doctor.

MR. FRAWLEY: His client does, though.

MR. NOLAN: However, my point was that the cost of production you said does not fix the price of crude, something else fixes that, but is it not a fact that the cost of production will necessarily affect the number of wells that are being drilled?

A I think I would prefer to state it this way the cost of production sets the minimum price which can be received for a barrel of crude and still make a profit.

Q Now, if we had another field in this Western part of Canada where we could get production commercially in quantity at lesser depths for less money would it follow that capital would be attracted to that newer and cheaper field?

A I think undoubtedly that would, but you must also remember this that it also depends upon the growth of demand in the Province and in Canada as a whole, and in the world as a whole, and if we are going to project ourselves into that phase of it, it is necessary that we take into consideration international conditions, national conditions and local conditions. In the United States, which is the largest oil producing country in the world, there are wells producing from a

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depth of 59 feet down to a maximum depth of 13,300, and some odd feet. The history of those fields has been the same as the history of the fields in your country. There is a great increase in the demand for crude, and this has speeded up the development. There are wells in the United States which are comparatively cheap, and there are other wells which cost as much as those up here in Turner Valley, where you have an excellent grade of crude oil.

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Q Have you had the opportunity of ascertaining whether the drilling that has been carried on in the Turner Valley, has or has not been profitable?

A No, I have not. I may have had access had I asked, I didn't go into that.

Q You have formed no opinion as to that?

A Just on the basis of what your own witnesses have said and what I was informed was the figure for development.

Q But you have formed no opinion in your own as to whether or not drilling in the Valley has been a profitable venture or not?

A Well, I feel it has not up to date.

Q Yes. Now, you are, Dr. Boatright, a Consulting Engineer?

A That is correct.

Q And for the purposes of the record, and I do not mean to be impertinent, what is a Consulting Engineer, he is a gentleman who what?

A Who is called in to express his opinion, or to take charge of operations when someone needs help.

Q Yes, and your work has been primarily connected with the oil industry in its various stages?

A In the production, valuation and geological data.

Q And you have had something to do with pipelines?

A Yes.

Q Because that is a component part of production?

A Correct.

Q You, of course, have formed no opinion as to the value of this pipeline, that was no part of your duty?

A No, I made no evaluation of the value of this pipeline.

Q But you have evaluated pipelines in other places?

A That is correct.

Q Pipelines comparable in extent to this?

A Yes, I think so.

Q This one being thirty odd miles in length?

A Yes.

Q You know this one was laid in the first instance, the first pipe was laid in 1925, do you?

A Yes, I did not know the date, I knew it was laid some ten or twelve or thirteen years ago.

Q And in connection with your valuations of pipelines in other places, Dr. Boatright, you have gone into the question of amortization?

A Yes.

Q Do you think that it is fair to this company operating this pipeline to amortize its investment over a period of thirty-one years?

A As a matter of fact, that pipeline, including the new line, is already amortized on the basis of the additional profit which has been obtained from that line at the rate you have been charging.

Q Do you think it is fair to this company to fix now for the purposes of accounting, a period of thirty-one years to amortize this investment?

A I feel that the life of the field is going to be thirty-one years.

Q Oh, yes.

A And I expressed no opinion as to the pipeline. Now, you wished me to express an opinion along that line?

Q No, I just want to say this to you, and see if you will agree with me, if you will or not, do you as a rule fix periods such as thirty-one years for amortizing

pipelines?

A If the condition justified it there is no reason why it should not have been set at thirty-one years.

Q Has it ever in your experience justified such a period?

A I do not know that any such period has ever been used, for the amortization of pipelines, but there is no reason why it should not be if the conditions are proper.

Q You have never encountered conditions before justifying a period of thirty-one years?

A Well, as a general rule in the work of the amortization of pipelines it is not a matter of what is justified. It is a matter of what can be gotten away with, and the pipeline is generally interested, not in the life of the field but in the minimum to be sure that the rate at which the amortization is charged will be covered by the life of the field, and as a result, regardless of whether the life of the field is ten, twenty or thirty or forty or fifty years, has made very little difference with the ordinary pipeline. They accept ten years as being the amortization rate.

Q And is that what you have set in your evaluation for pipeline companies?

A Oh, no, the pipelines themselves set the rate. They merely want to be sure that my estimate assured them of a life sufficient to cover that period and they prefer to have a safety factor of about five to one.

Q A safety factor arising out of the particular circumstance attaching to an oil field , namely, that it is a hazardous undertaking?

A Well, I would like to point out an accepted thing in that

connection, for a given oil in a given field a certain price is paid delivered to wherever the refinery centre or market is, and of necessity the price received in the field for that oil has to take into consideration the pipeline cost of transporting that oil. I want to point out a little interesting sidelight in connection with that. Under an ordinary lease the oil company is required to pay the cost of producing the royalty owners' crude oil and....

Q In this case that is the Government?

A In this case, yes, and if by making excessive pipeline charges on that oil he can reduce the price received for the crude, which, after all, is the criterion for what the royalty owner gets, and throw that additional price into his pipeline charges, he is indirectly making the royalty owner pay for some of the lifted cost of that oil.

Q And should he do that?

A And pipelines are cognizant of that fact and it is the natural tendency of anyone in business to make money, that is the reason they are in there, and pipelines know of all these things, and the pipeline in an integrated company is merely a service department and is not entitled to make a red cent of profit on this company's operation. Now, when an integrated company pipeline goes into the business of transporting oil for others then it becomes a profit making venture.

Q Yes, but to go back to where we were, is not the drilling of oil wells in this Valley here a hazardous venture?

A Certainly, but I would like to point out that the drilling of wells has nothing to do with the pipeline if it is a common carrier. It is in the business of making money and oil is delivered to it at one end and it delivers it at the other.

Q But if there is no oil there is no use for your pipeline?

A That is correct.

Q And you, of course, well perhaps you have not made any examination or done anything in respect of this pipeline here, have you?

A No, except to know about the length of it and that there are two 4 inch and one 6 inch line, I have not made any examination of the pipeline phase of this.

Q Now, there are some technical questions there, and with your permission, Dr. Link will ask Dr. Boatright in respect to them.

THE CHAIRMAN: Before Dr. Link starts, you asked Mr. Nolan if he wanted your opinion and he did not press you for it with respect to this pipeline matter. The Commission would like to have it if you have anything more to say concerning pipelines?

A I have forgotten the occasion, Mr. Chairman.

Q MR. FRAWLEY: The question was in relation to, whether you had an opinion as to amortization over thirty-one years and you said "I can give you my opinion about that." That is the note I made, and Mr. Nolan did not press you for it, it had something to do with amortization, do you recall?

A It comes back to me now. As I pointed out to Mr. Nolan,

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the ordinary pipeline is not interested in how oil depreciates in any period, but are interested.....

Q THE CHAIRMAN: The pipeline company, you mean?

A The pipeline company.

Q MR. FRAWLEY: Or owner?

A I am referring now to a common carrier, are not interested in charging the minimum depreciation rate which anybody charges. They are interested in charging the maximum rate that can be charged, and in the ordinary pipeline evaluation, the pipeline itself sets the price which in its opinion may be safely used, taking into consideration the life of the field, which must be as great as the life chosen, but they set the life of the pipeline as a general rule at the minimum figure for depreciation or, in other words, use the maximum depreciation figure. A figure which is very commonly used is ten years. That figure is used by a great many pipelines but as I say the pipeline is not interested in the actual cost of transporting oil so much as in making a profit. Now, here is another thing too with regard to that ten years, that ten year figure has been applied rather indiscriminatel in lots of cases to various areas, where conditions are much different than they are here. Of course, there are numerous factors which enter into pipeline depreciation, there is the life of the pipeline itself, there is the life of the auxiliary equipment which is necessary in operating a crude oil, all these things have to be taken into consideration, also the life of the field, and as I said before, pipeline rates are set at a point which are high enough to assure them that their pipeline will

be depreciated out at the, before the field's life is out. Other than that I think it is in general the experience that the rates are higher than would otherwise be necessary. As a matter of fact, a pipeline survey of the United States showed that the average pipeline in the United States at the time of that investigation was something over fourteen cents, was something over 14% profit, whereas the statistical summary of various other industries, oh, probably forty or fifty other industries, showed that the average rate of return on their investment was about 10%, and the recommendation was made at that time that the pipeline rates be reduced so that the return on their investment would be approximately 10%, or less, instead of the 14%, which was away high with respect to other industries involving expenditures as high as the pipeline. I believe that covers it, unless you have some questions.

Q THE CHAIRMAN: Take this field, you estimate and you say conservatively the life of this field under existing conditions will be thirty years?

A That is correct.

Q If you feel that you are in a position to express an opinion as to whether or not in setting a rate for the pipeline company it would be reasonable to take into account for rate-fixing purposes now.....

A I understand.

Q As much as thirty years, or should there not be some proper lee-way?

A I think there should be some proper lee-way. I think personally that a twenty year life is the proper figure

to use.

Q For rate-fixing purposes?

A That is right. I feel my estimate of thirty-one years is probably, at least 70% correct, and that it will prove to be so in the future. Now, that 70% may be either high or low. In other words, the figure I gave you was what I felt is a reasonable figure, but I admit....

Q Your professional opinion is that a figure of twenty years should be accepted?

A That is right.

Q But were you concerned with rate-fixing ?

A No, I was not.

Q Not at all?

A No.

Q And I am putting to you now that were you, as we are.....

A Yes.

Q Then you might say, will you say, that to be quite fair to the pipeline company, something should be taken off that again for purposes of calculation?

A I feel that, sir, and I think that a twenty year period would be very fair to both sides, that is the figure which I had in mind.

Q Now, this has not been pursued or opened up until Mr. Nolan, he opened it up?

A No, I know.

Mr. CHAIRMAN: But I think, Mr. Frawley, it is a very important feature of this Inquiry, and something with which this witness appears to be quite familiar, as to how these valuations are made and how accounting has been done with respect to them, have you considered that in connection with this witness?

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MR. FRAWLEY: Yes, he certainly was here primarily to estimate the field reserves.

THE CHAIRMAN: But he is here, and apparently he has wide knowledge of other matters of concern to this Commission.

MR. FRAWLEY: Yes. Perhaps the most useful thing I can say that he is coming back and if I pursue it now without some conference with him it might not be very profitable.

THE CHAIRMAN: If you tell us the witness is coming back?

MR. FRAWLEY: Yes, he is coming back.

THE CHAIRMAN: You never thought of this phase of it until Mr. Nolan raised it.

MR. FRAWLEY: No, that is quite right.

THE CHAIRMAN: Mr. Nolan kindly brought it out and if the witness has knowledge I think it should be pursued

MR. FRAWLEY: Yes.

THE CHAIRMAN: And if you present it at some other time, why all right.

Q MAJOR LIPSETT: You did say something, Dr. Boatright, but you did not pursue it, about the amortization which has already taken place in the pipe which has been built, at the rates which have been charged?

A Yes. As a matter of fact, the figures shown by our accountamt indicate that, the figures prepared by our accountant indicate that the pipeline has already been amortized by the profits of the pipeline operation.

Q MAJOR LIPSETT: Is that the pipeline you referred to, that was completed twelve or thirteen years ago?

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A Yes, that is this pipeline we are discussing here, of the Royalits. I think there are three lines, as a matter of fact, there are two four inch lines and one six inch line, and I believe that an analysis of the accounts of that company will show that the profits made from the pipeline charges to date have already amortized that investment.

Q That is the first pipe, or all of the pipes?

A All of it. The present value of the whole plant. Of course, I am giving the figures which were prepared by accountants.

Q Yes?

A And which probably the Royalite accountants will not agree with, but I happen to have had access to those figures and those figures indicate that in the past history of the Royalite Company in the Turner Valley field that their pipeline has already been amortized and that includes the complete plant.

Q Including the three pipelines?

A Yes. It seems to me possibly that the accountants can speak of that with a great deal more authority than I can.

Q THE CHAIRMAN: It has been depreciated to the full extent?

A That is the case.

Q That is the question of what is a fair return to the carrier for carrying?

A That is correct.

MAJOR LIPSETT: It might be possible when you come back, Dr. Boatright, apparently you have had considerable experience with the costs of these lines in the States,

it may be possible for you when you come back to consider whether you can give us some information as to the cost of these pipelines?

A I will be glad to do that.

Q THE CHAIRMAN: Which would probably be only a check on the actual cost?

A Yes.

Q Which will be proved before us?

MR. NOLAN: Oh, yes, certainly, the evidence is going to be led as to that, certainly.

THE CHAIRMAN: Well, how do you feel, Mr. Nolan, that is what I was going to ask you a moment ago, but I can ask you just as well here, in view of the fact that this witness may be, is coming back, we are told, and he may be a witness of some importance on another phase of this, do you want to have Dr. Link pursue the examination of him in respect to the matters as to which he has already given evidence, or would you prefer to have the cross-examination pursued with respect to the whole?

MR. NOLAN: I woulder if I might steer the middle course, sir, and have your permission that Dr. Link and Mr. Davies should ask Dr. Boatright some few questions to-day, to clear up what they think are things which should not remain in the Commissioners' minds over the vacation, and then give me permission to go more fully into the cross-examination of Dr. Boatright on his return on other matters which, perhaps, we have not now time to take up.

MR. FRAWLEY: Well, of course, I am not representing

a party litigant or I would, perhaps, object to that, but I do know, it seems to me that if Mr. Davies and Dr. Link are going to cross-examine, they should as much as they could, having in mind time, and I am, perhaps, the one who has set the dead-line there, Dr. Boatright wants to get away, they should complete it as much as they can, rather than take a few points they would like to clear up and reserve the main cross-examination until later. I do not think that is very satisfactory to the Commissioners.

THE CHAIRMAN: I think we will take time to consider that for a few minutes and we will let you know. We will be back shortly.

(An adjournment was here taken for five minutes.)

THE CHAIRMAN: Mr. Nolan, you will remember that you were good enough to say that you would make a map. Is it done, so that we can make an Exhibit of it, so that we may have it over the holiday?

DR. LINK: That is the composite map?

THE CHAIRMAN: Yes.

MR. FRAWLEY: If it were not finished to-day it might be left with you, even although the Sittings are closed.

MR. NOLAN: Mr. Burns thinks it is ready in fact now.

THE CHAIRMAN: You will have someone to go on with on Monday?

MR. FRAWLEY: Yes, that is my intention.

THE CHAIRMAN: Any time before we rise. I thought if we could have it put in as an Exhibit we could deal

with it as an Exhibit during the holidays.

MR. NOLAN: Yes, my lord.

(CROSS-EXAMINATION OF DR. BOATRIGHT BY DR. LINK).

Q Dr. LINK: In order to facilitate this examination, if you do not mind I will read the question and where calculations were supposed to have been made I will give the figures, the structure contour maps of Turner Valley which you submitted as Exhibits "3", "4" and "5", did you prepare these maps yourself?

A No, they were not prepared by myself. They were prepared under my direction by Mr. Johnnie Ower, of the Petroleum & Natural Gas Division, under my instructions and the map was examined after it was through by me and received my approval.

Q In making these maps were directional surveys of the wells taken into account?

A No, they were not.

Q Did you take into account all the slope records available for all wells drilled since 1928?

A No, the tops of the lime were taken as being the true top of lime in all cases.

Q In view of the fact that you did not have available such surveys I presume that you will admit that your map is not as true a picture as the one submitted by me?

A I do not believe that it was brought out in my testimony that you had corrected for deviation. As a matter of fact, I think there are a great number of wells of which there are no directionals, of which no directional surveys have been made, and if the directional surveys have

notbeen made of all the wells, I do not think I admitted that.

Q We have the information?

A In respect of the wells upon which you have directional surveys, those tops of lime will be more accurate than the tops of limes which I used.

Q Yesterday afternoon you stated that Sterling Pacific 3 lies right at the border of your gas-cap crude oil boundary line,, and I called attention to the fact that it had migrated south-westerly?

A Yes.

Q Therefore, you will admit now that it lies within your crude oil boundary line?

A Yes, if the directional survey indicates that it has migrated down dip, that, of course, would put it in Mr. Davies' Area A. When I made the statement that it was on the gas-oil contact line I was, of course, referring to the surface location and not the sub-surface location.

Q In your statement this afternoon you placed B and B, Royalties No. 1, within the border of your gas-cap crude oil boundary, didn't you?

A I don't remember.

Q B and B Royalties?

A I know where the well is but I do not know where it was in my boundary line.

Q You will admit that B and B Royalties is an oil well?

A Yes.

Q It is an oil well without a doubt?

A I am sure it is.

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Q Do you know what the top of the limit of elevation is for B and B?

I have it here, I have it here, it is 1935 feet, below sea-level?

A All right.

Q So it is beyond, outside of your crude oil boundary?

A It is out. The surface location is outside of my crude oil boundary line at an elevation of 1935.

Q Yes, and the B and B Royalties has produced to date 290,000 barrels of crude oil?

A Yes.

Q Therefore, we must regard it as an oil well?

A Yes.

Q And the 2,000 foot contour is not the true position of the crude oil gas-cap boundary?

A It may not be.

Q Do you know the structural relationship between Sterling Pacific No. 4 and West Flank No. 1, they are opposite one another 600 feet?

A And I believe that Sterling is to the west, to the east.

Q To the east?

A Of the other well.

Q Yes. Now, West Flank No. 1 encountered the top of the lime at 2468 feet below sea-level?

A Yes.

Q And it is the west one?

A Yes.

Q And Sterling Pacific No. 4 encountered the same marker at 2482 below sea-level?

A Yes.

Q Have you any explanation of that from a structural standpoint?

A Well, I, of course, know that what you are driving at is that that fault which has been placed in there by some geologist but, as I understand it, neither of these wells had directional surveys, and I know that unless directional surveys are made of those wells that deviations are greater, they may occur just on account of the drilling conditions.

Q Don't you think that if there was that fault lying between the two wells at the surface, and they are only 600 feet apart, that the fault may have been encountered in West Flank 1 as being west?

A Well, it is possible that it is.

Q It would be a very high angled fault, if it would not?

A Of course, there is this much about it, these surface faults, in my estimation, in the majority of the surface faults in the Turner Valley field, they are not continuous to depth.

Q No, the thing, as Dr. Hume recorded it, not as a surface fault but a limestone fault. Now, throughout your discussion you repeatedly made a slip of the tongue referring to "producing sand" in Turner Valley, you mean producing.....

A Producing lime.

Q Because you know there is no sand producing horizon in Turner Valley?

A No.

Q Of how many other limestone producing fields have you

estimated recoverable reserves?

A Probably three or four.

Q And do you regard those limestone fields as comparable to Turner Valley?

A Yes. I regard them as comparable in a number of respects, they are not identical, of course.

Q Let us take one of the fields?

A All right, take the Border, if you like.

Q What is the average thickness of the porosity in that field?

A Oh, in the gas-cap the porosity thickness is probably, well, around from 50 to 200 feet, that is in the gas horizon and in the oil horizon the producing thickness would probably run from 10 to 50 feet, that is porous section.

Q And what did you calculate for that field as the percentage of porosity?

A That field, I do not know that I can give you those figures from memory, it has been quite some time.

Q Do you remember what your acreage recovery was estimated at for that field?

A No, I do not. It was done some ten or twelve years ago and any figure I would give is a pure guess.

Q What I was driving at , was whether it was comparable to Turner Valley?

A I will be glad to get you that information, for you, and give it to you, exactly on all those three questions. As I say, it is a long time ago. During the recent years, as you know, most of my work has been in fields

along the Gulf Coast and did not include the Border field or any of the other lime fields.

Q Dr. Boatright, have you personally examined rock cuttings and cores of the producing horizon to enable you, that is rock cuttings and cores of the producing horizons in Turner Valley, to enable you to arrive at a reasonable picture or idea with respect to the nature of the producing horizon?

A Yes, I have examined the cuttings and the cores.

Q Could you identify the stratigraphic positions of samples of drill cuttings if submitted to you, and point out in what stratigraphic horizon it belongs?

A I do not believe so.

Q Have you ever examined over any considerable distance outcrops of limestone and dolemite in the field?

A Oh, yes.

Q Where?

A Colorado.

Q What limestone was that?

A Oh, Lyons, I believe it was, and of course, have travelled through limestone outcrop countries, there the Green Horn lime also.

Q Now, what conclusion did you arrive at with respect to the continuity of dolemite in a limestone formation?

A Well, I would not lay claim to being a field geologist but my reading indicates that the dolemite, it is not commercially continuous throughout any given limestone. It depends upon the manner in whic it was made or deposited, whether it is primary or secondary, and all the various factors which go to make it up, and my ideas, of course, of dolemitization are primarily from reading

and not from field observation.

Q In other words, if I should tell you that I have had fifteen years of actual field experience, observing these limestones, you would rather take my opinion with regard to the continuity of dolemites and limestone rather than yours, would you not, from observations of outcrop?

A Oh, I think I would have more faith in your judgment. However, I want to right here point out something and that is that my observations concerning the Turner Valley field are not based upon th findings of one geologist.

Q No?

A I read a great deal of literature which is dealing on the geology of the Turner Valley field and which was prepared by a man of recognized authority on the subject, and in arriving at my conclusions concerning this field the evidence that it presented in favour of his argument and as you know they do not all agree, was weighed and I chose the interpretation that seemed to be the most reasonable considering the evidence presented by the various geologists.

Q Did any of them conclude that the limestone dolemite was continuous?

A I think not. I think that they considered that they did not know whether or not it was.

Q Here are some points which were covered yesterday.

A Now, that is over the limestone areas of the whole or in Turner Valley?

Q In Turner Valley?

A I think their conclusion was that it was continuous in some instances.

Q Now, if you do not mind, may I read into the record some information in published literature with respect to continuity of dolemite and limestone?

THE CHAIRMAN: What you can do, Dr. Link, you can read from your text-book and you can ask the witness to say whether or not he agrees with the record.

MR. NOLAN: Telling him from where it comes.

THE CHAIRMAN: Of course.

(Page 687 follows.)

DR. LINK: Now if you don't mind, may I read into the record some information with respect to dolomite in limestone.

THE CHAIRMAN: What you can do is, you can read from your textbook, and you can ask the witness to say whether or not he agrees with the writer.

MR.NOLAN: And telling him the name of the textbook:

Q DR. LINK: Do you know W. V. Howard?

A No, I do not know him.

THE CHAIRMAN: It is proper perhaps, for me to say so that you may understand, a your Counsel does, that we are not accepting the book, we are merely allowing you to use something in a book written by an expert to get the evidence of this witness, you understand that.

DR. LINK: Yes, thank you.

Q Now in this volume "Problems of Petroleum Geology" a symposium by the American Association of Petroleum Geologists, there is a contribution by W. V. Howard "Accumulation of oil in Commercial Quantities" this was under the A.P.I. project, on Page 366 of this volume Dr. Howard says.....

THE CHAIRMAN: Who is Dr. Howard?

DR. LINK: Dr. Howard was at the University of Illinois at that time, I do not know where he is now. I remember sending him samples from Turner Valley at the time this project was under way.

THE CHAIRMAN: All right.

Q DR. LINK: Dr. Howard stated "In all cases of limestones having primary porosity, it is

probable that the porosity is not continuous", do you agree with that?

A No.

Q Page 367 of the same volume under the heading "Partially Re-cemented Porous Limestone".

" This class includes those limestones which "contain fossil molds filled with oil, as well as "limestones like the Niagara limestone exposed in "the quarries ne Monon, Indiana, where the rock "has a high porosity and little or no permeability. "In this rock it can easily be seen that openings "have been sealed from one another by a lining of "calcite crystals, and that the rock was originally "permeable". That sounds very familiar does it not? "Circulating fluids have deposited calcite greatly "reducing the permeability. It can also be seen that "among the fluids entering the rock at this time was "oil, and that some of the openings were blocked off "by the growth of crystals before the oil entered "the rock, for some openings do not show the faintest "trace of oil, while others nearby have been filled "with oil, the rock around these openingsbeing stained "dark brown. In other cavities of this rock there "are large crystals which contain inclusions of oil". Do you agree with that?

A No, I certainly do not, because every history of limestone formations show that there are any number of ways in which it may have been laid down, and even in a good limestone formation these may vary in wide limits within a relatively short area geologically speaking. You are taking an example of a limestone a

long distance from here, which may have been laid down under different geological onnditions. I do not agree with that because it does not apply to Turner Valley, because we have evidence here that refutes that.

Q I will quote from John Emery Adams, in the same volume at Page 348. He is a geologist for a California Company at Midland, Texas. Possibly you know him?

A No, I do not , personally.

Q The title of his contribution is "Origin, Migrqtion and Accumulation of Petroleum in Limestone Reservoirs in Western United States and Canada." On page 348

Q The producing zone is less than fifty feet thick, "and the individual porous horizons are separated by "beds of dense hard dolomite." Now, unfortunately, I forgot to tell you that he was at thattime referring to Turner Valley limestone. Do you wish me to read it all so that you can see the connection?

THE CHAIRMAN: Yes, if you want the witness to consider it.

DR. LINK: "Turner Valley. Limestone "production in the Turner Valley pool in Western Alberta "comes from the upper Rundle of Mississippian age. "TheRundle is approximately the equivalent of the Madison "limestone on the Sweet Grass arch in Montana, which in "turn is Kinderhook. The upper Rundle is a dolomitic "limestone in the producing area. On the flanks of "the structure the dolomite grades outwards into a "pure limestone. There are two producing horizons "at the Southern end of the pool, and four irregularly "continuous horizons at the Northern end." Now I

come to that part I have already quoted: "The producing "zone is less than fifty feet thick, and the individual "porous horizons are separated by beds of dense hard "dolomite." This volume came out in 1934.

A And in 1934 what evidence did he have to support the statement that the dolomite was not continuous to the West, had any wells penetrated the limestone to the West at that time?

Q In 1934 the furthest West was the Davies?

A In other words, he had no information on this area we are talking about.

Q Several wells had been drilled West of Turner Valley. The Highwood Sarcee structure, the P.H. & A.Well No. 1., Hudson Bay Well No. 1, North West Imperial No. 1. The Highwood No. 1 hadbeen drilled, and there had been four wells drilled West of Turner Valley.

A But the conditions under which they were might be entirely different.

Q Yes, that might be true, the limestone might vary? But you cannot make an estimate based on that as to the so-called probable oil area in Turner Valley. And while you are on that I would like you to read that little statement that he makes in his opinion the importance of fractures has been greatly exaggerated.

Q Do you mean Adams?

A Yes.

Q Would you point it out to me?

A I believe it is at the top of Page 340, I think.

Q No. As I recall it it does not go back to 340. That is all he says about Turner Valley, it is all

in the one paragraph, unless it is in the Summary.

A I think this is it here, no, that is not the one.

Q It would be quite all right if you would read that out. "One of the theories that appears to be overworked", no that is not it, although that applies to this very nicely too. It is not particularly important anyway, and will take a lot of time to find it.

Q In this same volume John M. Muir, an independent Geologist of Fort Worth, Texas, on "Limestone Reservoir Rocks in the Mexican Oil Fields" has the following to say on Page 388 and 389:

" Some fracture zones run for considerable distances,
"Instances are known of producing wells about .75
"mile (more than one kilometer)"
which is about three-quarters of a mile,
"apart affecting one another. In other cases,
"closely spaced producing wells located across the
" strike or trend of the fracture zones, did not
"affect one another. In the latter case production
"probably came from independent parallel or sub-parallel
"fractures. In the most favourable productive areas,
"not more than 20% of the wells reached or exceeded
"3500 barrels daily production. Wells vary from
"dry holes through a range of 50 or 100 barrels daily
"up to the size of 30,000 barrels daily. It is not
"implied that gushers were the rule. They formed a
"relatively small percentage of a total number of
"producers. Wide variation in the size of nearby
"wells was the feature."

Do you agree with that?

A Why that might be perfectly right in Mexico, but as

I understand it, Mexico is about 2500 or 3000 miles from here.

Q And the Highwood Sarcee is only a few miles in the Turner Valley field from here?

A Yes, yet on the Highwood structure you use that quotation for saying that dolomitization did not occur on the West side of Turner Valley.

Q Dr. Boatright, there are several more but I will not ask you about them now. However, I have here a document by J. Grant Spratt, and Vernon Taylor. They are both of Calgary and Turner Valley now, entitled "Oil Prospects along the West Flank of Turner Valley Gas Field". This appeared in "The Canadian Institute of Mines and Metallurgy, 1936". I have not the volume here. However, you are familiar with that publication are you not?

A Yes.

THE CHAIRMAN: When was this written?

DR. LINK: In 1936, I think.

WITNESS: In January 1936, is it not?

DR. LINK: October 1936.

Q I now quote from Spratt's and Taylor's publication, "Average well production prospects: the average output "of the wells in the gas area for the past four years "has been approximately 3,000,000 cubic feet of gas and "40 barrels of oil per day. In view of the better gas-"oil ratios prevailing in the crude area, it is expected "that the average production per well, will be considerably "better than in the gas area although comparatively small "producers will be encountered where the permeability "of the limestone is low. Permeability has been defined

"as the property which permits liquids and gasses "to pass through a porous medium. In Turner Valley, "permeability due to fracturing of the porous lime- "stone appears to have played a major part in the ability "of wells to produce. Certain wells have had a very "shall daily production, and at the same time have had "just as much porous limestone as that found in some "of the best producers in the field. The most logical "explanation of this condition is that, in the best "producers, the porous zone has been fractured by the "stresses prevalent when the structure was being formed, "whereas in the small producer little or no fracture "accompanied the natural porosity of the formation. "It would be expected that fracturing would be developed "to a greater extent along the crest of the structure "where the limestone has been folded, and for this "reason a greater degree of permeability may exist in "the gas zone than farther down the flank."

That is very important. Spratt points out the possibility that the permeability of the West flank will be less than it has been in the gas cap area?

A Yes.

Q "This, however, can only be proved when actual production "conditions are known to a greater degree. Shooting and "acid treating of wells will, in some cases, increase "permeability with a consequent improvement in production. "Conclusion. In summing up the situation, it would "appear that a crude oil reserve of major importance "to this country exists along the Turner Valley West "flank, but its economical development depends chiefly "upon maintenance of sufficient gas energy to produce

"the oil, to a large extent on efficient drilling and "production practice, and finally on the position of "edge water, which can only be found by exploring. "Several wells are now being drilled at strategic "points which will materially assist in outlining the "boundaries of the oil reserves." Do you agree with that?

A Would it be permissible to analyze that. In the first place Mr. Spratt at the time that was written was not a practising geologist was he?

Q He was working for the Government.

A Well I agree with some of his statements in there, and certainly do not agree with others, and while we are on the subject of Mr. Spratt, you will notice that he makes the statement in the last paragraph which you read, the oil reserve per acre there will naturally be smaller than where the formation is more completely impregnated with oil, and that is the point that I was making with reference to using area "A" in calculating area "B", because there are numerous points throughout that discussion which you read, with which I thoroughly agree, but there are also other points with which I do not agree. It would be a matter of analysing the complete statement one thing at a time, so I do not think it is of particular value at the present time. However, I will do it if you wish.

Q I have several more representations by W. P. Campbell, and I have a publication here which says practically the same thing over again. After considering all these things, what is your opinion as to the permeability and the continuity of dolomite horizons generally?

A Would you repeat that please?

Q After considering these citations, what is your conclusion with respect to the continuity and permeability of dolomitic producing horizons generally?

A With respect to Turner Valley do you mean?

Q What is your conclusion with respect to Turner Valley, yes?

A My conclusion with respect to Turner Valley, is that it is reasonable to assume in any assumption of future reserves that there is a possibility of a probable 10,000 acres that will have a production line between 2000 feet and 4000 feet, a contour line.

Q What do you think of calling any estimate with respect to porosity and permeability of an area less than one-third developed, a horseback figure?

A I did not get that.

Q What do you think of calling any estimate with respect to porosity and permeability of an area less than one-third developed, a horseback figure?

A I certainly would not call my estimate a horseback figure.

Q Are your figures on the eight foot void space based on any assumption?

A Oh, of course.

Q MR. FRAWLEY: It seems to me it is always other men's figures that are horseback figures in this Inquiry.

DR. LINK: I admit my figures are horseback figures. They are only an estimate and I admit they are horseback figures.

MR. NOLAN: Better get a new horse.

DR. LINK: There are several more

questions which I can ask you with respect to the Turner Valley horizon. I think the Commission understands that we both agree as to the limestone and dolomite.

A Insofar as the area in general is concerned. I think our disagreement lies with refenrece to the Turner Valley field.

Q So the people of Alberta are the chosen people who have the only continuous limestone field of continuous porosity which will last as long as any oil field.

A You know the Border oil field is 125 miles long.

Q What is it?

A Lime.

Q Which field?

A The Border field.

Q How long is it?

A 125 miles long, in the Wichita area, and it is practically continuous. It is like this field where the area is smaller, but the average over all is very similar. The map of that field looks very similar to the map of Turner Valley, and it does have a production along 125 miles.

Q Where is that located, in Texas?

A In the Panhandle.

Q The dynamic metamorphosism of the Panhandle you are going to compare with the dynamic metamorphosism of the Turner Valley field.

A You asked me if I knew of any more fields where the porosity extended for more than 17 miles.

Q The forces that built the Rocky Mountains are the same forces that built Turner Valley. They were tremendous forces. In the Texas Panhandle where I did my first

field geology in 1917 the rocks were lying flat at the surface, and the geological conditions are different. There is no comparison structurally between these two areas.

A Nevertheless, the fact remains that there are areas known where the porosity and limestone is continuous throughout.

Q Now, Dr. Boatright, you made the statement that you regarded the sub-surface work on the porosity of the producing horizons accomplished in the Provincial Government Laboratory as equal to that accomplished in the Royalite Oil Company laboratories or do you regard that to be better?

A I regard it equally as high.

Q Dr. Boatright, you made the statement several times with considerable emphasis that the work offered by me here yesterday on porosity is absolutely worthless.

A As far as those two maps are concerned, being utilized by the Commission in the study of this area, they are worthless.

Q Then the work that was done you have just admitted,- the work done by the Royalite Oil Company was equal to that done by the Government?

A As far as the porosity determinations are concerned not as far as the interpretations that are put on it.

Q I beg your pardon, there were no interpretations put on those maps. They were simply put there, and there was no interpretation put on them. Anyone can interpret them as he sees fit.

A But if those maps are not analyzed, and were not analyzed, they would lead to a wrong conclusion.

Q Your estimates on the reserves are, therefore, based

upon worthless work, and need no further consideration, save the statement that your porosity estimate is based on records from 78 feet of Spy Hill core of the odd 80,000 feet which have been drilled in the limestone in the Valley.

MR. FRAZLEY: I think that that statement should be divided up into its component parts.

DR. LINK: I did not expect him to agree with the first part of the statement.

THE CHAIRMAN: You are making statements at the moment. You can put anything you like in the form of a question, and I will not interfere with you in any way.

DR. LINK: Are your estimates on the reserves based upon worthless work or reliable work?

A Very reliable work.

Q Now, Dr. Boatright, I would like to point out one thing before I ask the next question.

THE CHAIRMAN: Do your pointing in question form. Ask him to assume something with you.

Q DR. LINK: You made thestatement, Dr. Boatright that the work which the Royalite Oil Company did on porosity was worthless did you not?

A I did not make that statement. I said the interpretation they obtained from that analysis was worthless.

Q What did you interpret from my work?

A I did not use that as a basis for my interpretation. As to that those figures that the Royalite Oil Company obtained from their study of the cores checked my figures fairly closely, as far as the oil saturation is concerned within reasonable limits.

Dr. Boatright.

Q In your final dissertation yesterday, you made the statement that these tests on this reserve were worthless, save that they showed that the limestone is variable.

A Oh no. I do not think I made that statement. I do not say the analysis is worthless, I say the interpretation of this analysis is worthless, and I did not use this analysis in the assumption.

Q Dr. Boatright, when any research is made, why make it if you know what the answer is going to be?

S Well you made one to corroborate your idea.

Q Do you think it is possible for someone who might have had the ideas to study the porosity of thelimestone in Turner Valley in order that he may arrive at a figure of the void spaces in Turner Valley. It is just possible for someone to start using that and then find out that he could not use it.

A In the study of porosity there is one inescapable line to be followed, and if that porosity was available throughout the field, therefore a great number of wells would have to be used. I think we have gone over enough as far as the location is concerned. I understand that there were four wells.....

Q Those four wells had nothing to do with porosity. That is another attempt at arriving at the reserves.

A No, unless it was made to arrive at the porosity figures. If there was one inescapable fact that those porosity figures showed, it showed that you have to have a large number of wells in order to arrive at the proper figures.

Q On how many wells was the porosity determined?

A On 61. I do not know how many you used.

Q I could not tell you exactly, but there were at least 150, if you want it.

A As a matter of fact, with your study of 150, your figure of oil saturation checked mine very closely for work of that type.

Q My oil saturation figure was given to you as a horseback figure from the stand?

A In other words, you did not analyse those cores did you?

Q Yes, I analysed those cores, and I decided that the cores and the porosity method will not do to estimate the reserves in Turner Valley and that was thrown overboard. Do you agree with that?

A You agree it was a horseback figure, but what I am saying is this, that if those cores had been properly analysed you would not have had horseback figures, but you might have had proper figures. You would not have had to take a horseback figure. Therefore, it indicates that you did not do very much study in taking those porosity figures. That is the first thing that you study cores for, you find out the saturation with oil, you find out the oil saturation, and yet you have to give me a horseback figure when I asked you that question after all that study on the reserves in the Turner Valley field.

Q In order to arrive at the method employed by you to estimate the reserves of Turner Valley, you admit it is necessary to study the limestone cuttings and the cores do you not?

A That is right, of course.

Q And if after studying those samples a man decides that he cannot use them, is he not at perfect liberty not to use

them.

A Certainly. If he uses some method that is proper and takes into consideration the question of porosity.

Q I am not asking you about any other method. I am asking you about this method. Now we will get down to a few actual figures. Your figures for therecovery of oil per acre is 17,100 barrels, an average.

A I think in my figures I used 17,000.

" What would you regard the possible difference in figures for different wells?

A Well you are liable to have anything from zero or practically zero as shown by wells like Calmont, up to a maximum of 7800 or something like that. I would expect any production between those two figures in any given well.

Q From your study of production graphs of Turner Valley, the Turner Valley wells, what would you consider to be a percentage figure of production for a well, after it has produced four years. In other words, let us suppose a well has a daily production of 500 barrels per day, the first day it comes in, and let us further assume that that well will produce at the rate of 500 barrels a day for one month, what would be thedaily average production in your opinion at the end of the last month of the fourth year?

A Well, a graph of that sort cannot be constructed for a field that has been conducted in the manner of Turner Valley. It would be ridiculous to attempt to estimate for a field that has been under partial pro-ration, partially wide open, and partially under a restricted flow.

It would be impossible to do it.

Q Do you think it will produce at the end of the fourth year at the end of the last month 500 barrels?

A No, of course not.

Q 300?

A No, I do not know.

Q 400?

A I do not know.

Q Have you not studied the graphs here at all?

A Yes, I have considerably.

Q Don't they mean anything?

A It depends on the interpretation you put on them. As a matter of fact in any analysis of a well you must give the pressure conditions, the gas-oil ratio conditions, the drilling conditions and the producing conditions under which that well came into production, and for any engineer to stand up and attempt to answer any question like yours would be foolish.

Q Would that be as foolish as trying to make an estimate for a horizon of 17 miles long and 2 miles wide. Would you think an estimate like that would be more unreasonable than the estimate you gave for the entire field production for 31 years?

A If you take the figures which you and Mr. Davies used and they were properly interpreted, they would have been higher than the figures I used.

Q Well, let us suppose that a well produces 14,000 or 15,000 barr the first four months of its production, you would not say what you would expect it to produce at the end of the fourth year would you?

A No, not with that limited amount of information.

Q By the way, what is the average daily initial production of the wells in Turner Valley the first month's daily average production?

A I can get that figure for you if you wish.

Q There were some wells came in at a flow as high as 7000 barrels a day we have had newspaper reports of some as high as that or higher, but those newspaper figures are not reliable. It is the first month's full production that is reliable is it not?

A You are absolutely right about that.

Q The total first month's production for 63 crude oil wells with the exception of Model No. 1, Advance No. 5A, which you have not classified, but including Dalhousie No. 8 and Brown No. 3, is 932,973 barrels.

A Yes, that is 300 barrels a day or slightly over, is it not?

Q No, it is 500 to be exact. That is 500 barrels to be exact.

Q Now do you believe that the first month's production figures are lower or higher than that to be expected later?

A In general terms if the well has been very well brought in the first month's production represents the highest production to be brought in by the well.

Q Let us not forget that figure. These wells which you have indicated this acreage is totalled 3623 acres but since we exclude Model No. 1 area, and Advance 5A area, 202 acres is subtracted making the total acreage 3421 acres. To this amount must be added 80 acres, 40 acres for Dalhousie No. 8 and 40 acres for Brown No. 3, and this gives a total of roughly 3500 acres. Now let us take round figures and say that only 3000 acres have been developed, I think that is close enough for this figure. Your estimate on

the recovery of oil 17,100 barrels per acre is it not.

A That is the figure I used throughout was 17,000.

Q Assuming that to be correct, we must expect 17,100 times 3000 acres to produce 51,300,000 barrels from the 63 wells, that is what you would have to expect with your figures?

A In the absolutely proven area.

Q However, I will say to you, that the production figures for Anglo-Canadian No. 1 are not in those we have not got them.

A Yes.

Q Now divide 932,973 barrels into 51,300,000 barrels, remember 932,000 is a month's figures divided into 51,300,000 barrels, and what is the answer? The answer is practically 55 or 54.9.

A 54.9?

Q Yes, 54.9 or 55 months.

A Yes.

Q And that is assuming over all production during that whole time at the initial rate of production, and that is four years and seven months. Therefore, at the end of four years and seven months Dr. Boatright is trying to have us believe that those wells will be producing at the sustained rate at which they started in the first month.

A Why don't you divide that figure which you use by 5½ million a year? If 5½ million is taken out in a year and you use that figure, then you would get the figure you are driving at, which is upon 9 or 10 years of actual production,using just the proven area alone without any attempt to include the Western part of the field.

Q Now supposing there were a market, we will suppose this, there were a market that could take care of these wells producing at this rate would you expect that at the end of the four years and 7 months the production would be the same as when they came in?

A I certainly would not. As a matter of fact, when you take figures of that type, using the first month's production for all the wells, the average production, and assuming those wells are going to produce for four and a half years at that rate, the answer is of no value whatever, because no well can maintain its maximum rate of production for that period. It is bound to show a decline. A better figure to take would be the amount of withdrawal based upon the past year, and then take a figure of eight or ten years of life, and that is on the actual proven area.

Q In conclusion, what do you believe would be the length of the life for the average well in Turner Valley?

A I have no way of telling what the average length of life of a well in Turner Valley will be, because I have no way of knowing under what conditions those wells were or will be producing.

Q Did you make a thorough study of the production records of all the wells in Turner Valley?

A No, of course not, that would be a physical impossibility.

Q All right, thank you.

Q MR. DAVIES: Dr. Boatright, I am going to ask you a very few questions. There is one point I wish to clear up which I regard as a totally complete error. No doubt you are as anxious as I am

to see that it is cleared up. You have questioned me at great length about area "B"?

A Yes.

Q Without my having the complete and proper figures on area "B" that I did on area "A", did you not?

A Yes.

Q And as a result of not having them you asked me to do some multiplying based on the average figure of 6555 barrels, and you asked me to multiply it by 6?

A Yes.

Q As related to gas-oil ratios. I was then in the same position you are in now, and an error crept into that and it is a very serious error from my point of view, and I have worked out the wells in area "B" or a number of them, and I have it here, so it will save you multiplying it, and I will go over it very rapidly. As you will recall you gave a figure, you gave me a supposition and then from the supposition you had me multiply 6555 by 6?

A That is correct.

Q And then you deduced from that that my recovery in area "B" under my method would have been 39,330 barrels an acre?

A Assuming that the gas-oil ratio average which you gave me was 1 to 6.

Q That figure is correct, but I want to ask you about the actual working of it out. There is an error in it and perhaps I can explain it to you afterwards. It is quite obvious. One of the largest wells in the field and I am taking it right straight down here, (indicating) and perhaps I can get it from the record, but it is all

multiplied out here, the total production to date. Here is the amount right here, and it works out at a figure of 16,546 barrels total oil recoverable from the Prairie well, following that is the Sunset No. 1 which is a good well and gives out 13,800 barrels, Davies No, 1 is in area "B", 6011 barrels an acre, and this next one here 3281, Commoil, one of the biggest wells we have 15,600, Royal Canadian 5819 barrels, they are all on 40 acres, and that averages out to 10,000 barrels per acre. I want to ask you do you know that in the same area where is the Globe Oil?

A Yes.

Q And you know it is a very small well?

A Yes, I know it is a very small well.

Q Its recovery will be perhaps 3000 barrels an acre on our present information probably.

A I do not know.

Q And National No. 2 is in that area?

A Yes.

Q And it also is small?

A I am not very well acquainted with those wells. If you say that is so, that is all right.

Q Yes, its production is about 200 barrels a day. Do you agree with me that it is a mistake in utilizing the figures in the way or the manner you did?

A I will make this statement, however, but it might not satisfy you, and it will be necessary to calculate it. In working that out you have not taken into consideration the actual gas-oil ratio in area "B", and simply attempted to approach it on a general ratio by taking the average gas-oil ratio in area "A" and

comparing it with area "B".. The proper way of doing it would be to take each individual well and calculate each one separately, but I think before jumping to any conclusion that that ought to be done by using the wells bottom-hole pressure and the gas-oil ratio. I did not agree that your method was correct, but I was just trying to use your figures to arrive at a figure for area "B". I will say this, that the proper way would be to calculate and figure out each individual well in area "B" using the actual figures for each well, and adding them up as you have done with area "A".

Q That is as I have done with those there.

Yes. I have not had a chance to check them, and if the figures are not correct they will lead to an erroneous conclusion, but before admitting that the figure we were using is wrong, it shouldbe calculated for the whole thing.

Q The point I wish to raise, and Mr. Nolan wishes to raise, and that is why I asked for this opportunity to question you, Dr. Boatright, is that I am quite sure that you had no intention at all of leaving an erroneous impression in the minds of the Commission, and if the Commission is going to study those figures, there is an obvious mistake in there, and this figure of 19,700 barrels that all goes out of the picture completely.

A Yes.

Q And in due course I may tell you I am going to put in more figures and get the November gas-oil ratios, and I will get the November figures completed. There is one more question I wish to ask, in your calculations

you have emphasized daily gas-oil ratios. Are you aware that I did not use the daily, but that it was the average?

A As I understood it you were using the average for a month.

Q But in your summing up you pointed to one of the errors as a fact, and said that I had used daily gas-oil ratios.

A No, the point I was trying to make was this, that you had used gas-oil ratios without knowing under what conditions that well had produced and I thoroughly understood it was over a period during that month.

Q Now in your summary last night, that calculation which you have already corrected to day, I still think you need some further correction of it.

A If you would mind bringing it to my attention, and it is wrong, I will be glad to correct it.

Q Yes. There was one other point, you mentioned the recoverable gas from the gas cap at 36,000,000 gallons. You meant barrels did you not, in your summing up last night? I know you were rather tired.

A It was 50 barrels per million cubic feet of gas.

Q In the beginning of your evidence you gave a figure of barrels and then in summing up you gave gallons?

A Well I meant barrels.

Q I thought you did.

MR. FRAWLEY: You said, Mr. Davies, there was something else you wanted to call to his attention, some further error in the calculation given this morning. Would you like to do that now, or do you intend to do it later.

MR. DAVIES: It is getting pretty late.

THE CHAIRMAN: A minute does not matter.

Q MR. DAVIES: It was in the percentage of error that could take place in my method of calculation. I asked you this question, that with regard to the calculation that you made that you took it on 5,000,000 cubic feet of gas which is a relatively small amount of gas?

A Yes.

Q And then you took it on 20,000 gas-oil ratios?

A Yes.

Q In other words, any error in there is magnified enormously by taking figures which are not comparable.

A You are absolutely right, and I might state this, which will satisfy you, I think, as I pointed out to the Commission, I pointed out that I was simply using that as an illustration which obviously was exaggerated. I did that to show the effect of any changes in the figures. There was no attempt to show that your figures were that far off.

Q That they were 50% out or anything of that sort?

A No, I made that clear I thought. If I did not, I want to do it at this time. It was merely for the purpose of illustrating errors that could creep in, by taking figures that were wrong under your method.

Q I want to thank you for your courtesy in correcting these things, and I am absolved from this figure you were using, and the consequent interpretation placed upon that based on anything I have done, subject to your having an opportunity of checking the figures.

A Now, just in this one respect, in order that we all can be clear on the matter, the figure that I used

which arrived at that figure of 19,700 barrels per acre was obtained by making these assumptions which seemed to have led us to an erroneous conclusion I think it should be applied proportionately across that area.

Q That is the one thing I was interested in that the Commission should be clear that the 19,700 barrels was not really my figure, and Dr. Boatright has been kind enough to reserve judgment until he checks those figures. It might be a complete error as far as the 19,700 barrels is concerned.

A It might be an error because it led us to total figures instead of an individual well.

Q Thankyou, Dr. Boatright.

Q THE CHAIRMAN: You said that the market demand should not be allowed to increase theproduction in the field beyond a certain maximum?

A That is correct.

Q I suppose if new wells come in and so on that maximum must be changed?

A Yes sir.

Q It is not something that you can speak of today and say "This is the maximum for this field"?

A No, that is correct. The maximum would be set by the rate at which you could produce each individual well with a minimum gas-oil ratio, and incidentally that figure will change as the well's life continues because of the change in bottom-hole pressure.

Q Well, Dr. Boatright, the Commission hopes that you have a safe trip to your own country and a pleasant Christmas time?

A I thank you, Sir, and I am sure my wishes are the same to you

Q Well, gentlemen we will continue Monday morning at 10.30.

The Province of Alberta

IN THE MATTER OF THE PUBLIC INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the 12th day of October, A.D. 1938, to inquire into matters connected with Petroleum and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta DECEMBER 19th, 1938

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Witnesses:

E X H I B I T S

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MR. FRAWLEY: We will proceed this morning, Mr. Chairman, to discuss some of the general matters which you are directed to inquire into with respect to the pipeline and I will call Mr. John McLeod of the Royalite Oil Company.

JOHN McLEOD, having been first duly sworn examined by Mr. Frawley said:

Q Mr. McLeod, you are the managing director of the Royalite Oil Company?

A Yes.

Q And can you give me offhand the names of the directors of the Company and of the officers as you remember them.

A G. H. Smith of Toronto.

Q These are the directors, are they?

A Yes, chairman of the board.

Q G. H. Smith of Toronto, who is chairman of the Board?

A Yes.

Q Then.

A I am the President.

Q Yes.

A Vice-Presidents are: Alexander Hannah, K.C., Calgary, S. F. Hurd, Calgary, and the Directors are W. S. Herron, and C. M. Moore, I believe that is the last.

Q Then the officers, are there any other officers outside of that, I mean chief officers.

A The Secretary-Treasurer is T. E. Burns.

Q Will that about complete the list of Directors and officers?

A Yes.

Q Now the Royalite Oil Company is a Company with a good many outstanding shares, can you tell me offhand what its total authorized capitalization is?

A Total issued capital?

Q The total authorized first.

A The total issued capital is a million shares.

Q And it is all outstanding, is it?

A No.

Q Then how much has been issued?

A Approximately 705,000 shares, I can get you the exact amount Mr. Frawley.

Q What you mean then is, Mr. McLeod, a million dollars is the total authorized?

A A million shares.

Q A million shares is the total authorized?

A Yes.

Q And what is the dollars figure?

A No-par value.

Q All right, and you say there had been issued some 705,000 shares?

A Approximately that.

Q Now I understand that the Imperial Oil, Limited, has a controlling interest, or in other words, that the Royalite Oil Company, Limited, is a subsidiary of Imperial Oil Limited?

A That is correct.

Q How is that brought about, how did that come, how is that secured?

A The Imperial Oil in the first place purchased Calgary Petroleum Products. Calgary Petroleum Products sold their interest, their entire interest

or at least a controlling interest to the Imperial Oil. The Imperial Oil formed what is known as the Royalite.

Q Yes.

A And retained, due to the fact that they advanced money, the Imperial Oil advanced money for the development of the property previously owned by Calgary Petroleum Products, for the development of those property.

Q Yes.

A And they took shares for the money that they advanced to develop this property.

Q So that they, I take it then that they own at least 51% of the outstanding capital stock of the Royalite Oil Company?

A That is right.

Q About what percentage do they in fact control?

A I do not know the exact percentage, Mr. Frawley, but it is in the neighborhood of between 68% and 70%.

Q Yes. Now what are the chief businesses carried on by the Royalite Oil Company?

A They are producers and marketers of gas---

Q Natural gas?

A Natural gas.

Q Yes.

A They are producers of naphtha and absorption plant products. They are producers of crude oil and they own a pipeline.

Q Own and operate a pipeline?

A Own and operate a pipeline.

Q Before we come to the pipeline, those are, you have named now certainly the principal lines of business carried on by your Company?

A I would put it under those four headings.

Q It produces crude oil?

A Yes.

Q And crude naphtha?

A Yes.

Q It also purchases crude oil and crude naphtha from other producers?

A It purchases, as agent, for Imperial Oil.

Q That is just what I was coming to, the Imperial Oil Company, we will call it the Imperial Oil, its proper name is Imperial Oil Limited?

A Yes.

Q The Imperial Oil carries on a large refining business in Calgary?

A Yes.

Q And therefore it needs crude, a continuous supply of crude, crude oil and crude naphtha?

A Yes.

Q And other materials to manufacture gasoline?

A Yes.

Q Does it engage in the purchase of crude oil itself?

A The Royalite.

Q No, the Imperial Oil Limited?

A Not in Turner Valley, only through its agent, the Royalite.

Q I know. The Imperial Oil Limited does not engage in the buying of crude oil in the Turner Valley?

A No, only through its agent.

Q Yes I know, directly it does not I mean?

A No.

Q Nor of crude naphtha?

A No.

Q Now you are not a Director of Imperial Oil, are you?

A No, I have not that honour.

Q As President of the Royalite Oil Company can you tell me why that is, would you like to offer any comment upon why the Imperial Oil Limited, the refiner and marketer, does not purchase crude oil directly?

A No more than to say that the officers and manager of the Royalite are in a better position, due to their geographical location, to know what is about to happen than has any authorized Imperial officer in Western Canada. Therefore they utilize the officers and management of their subsidiary to carry on this office for them.

Q Now before we get to what the Royalite does, I am just thinking of the negative situation, you say the Imperial Oil has no crude purchasing department to go out in Turner Valley amd purchase crude?

A Only through its subsidiary the Royalite.

Q Yes. You have had experience in other fields in South America I think?

A Yes.

Q Have you had any experience of the Mid-Continent Field?

A Only that I have passed through it, that is all.

Q Do you know that that is a policy maintained by the major companies, or I will put it this way, is that

the policy maintained by the major companies in the South American field, for instance, that the refining company as such does not purchase its crude from the producers in the field.

A The refining company in South America is one department of the International Petroleum.

Q Yes.

A The International Petroleum controls the whole field in which I worked in South America.

Q Yes.

A The producing department delivers the crude oil or the production from its absorption plant to the refinery department who disposes of it afterwards. There is no purchasing agent, there is none required.

Q There is not. A subsidiary then is not interposed between the producer at the well and the refiner, in South America?

A The producer at the well is the man that refines and distributes, there are no independents.

Q There is nobody producing oil in that part of South America where you were in any event except the International Petroleum Company?

A Yes.

Q Therefore it is just a matter of departmentalising the International Petroleum Products?

A It refines and markets its products as one industry.

Q Yes, but in Turner Valley the Imperial Oil Company uses its subsidiary, the Royalite, to make purchases of crude oil?

A Yes.

Q Now therefore that purchasing is carried on through the medium of the posting of a price in Turner Valley?

A Yes.

Q For crude oil?

A Yes.

Q And that posting is done by whom?

A It is done by the Royalite on instructions from the Imperial as to what the price should be.

Q Now that is the point, the Imperial Oil Limited---

THE CHAIRMAN: Mr. Frawley, you started in establishing about subsidiaries and so on and you have gone to South America, the International Petroleum and so on, are Imperial and International and all these companies you were talking about, are they too subsidiaries of some larger corporation?

MR. FRAWLEY: Yes, you see Mr. Chairman, certainly before we have finished we will have all this clearly. I will pursue it more fully later. I was going to pursue that line with Mr. LeSueur who is coming here in January and I presume Mr. McLeod will resign in his favour.

WITNESS: Graciously.

Q MR. FRAWLEY: Perhaps we can have it on the record, this is a fact that the Imperial Oil Limited, controls the International Petroleum, in other words the International Petroleum is a subsidiary of Imperial Oil Limited.

A I would prefer that Mr. LeSueur answer that question, Mr. Frawley.

[illegible]

Q. Now thermometer [illegible] [illegible] in [illegible]
[illegible] of [illegible] [illegible] [illegible] [illegible]
[illegible]

Yes.

[illegible]

Yes.

[illegible]

Q All right. Now the Imperial Oil instructs your Company then the price at which the Imperial desires to post in the Turner Valley field.

A That is right.

Q And you then post the price?

A That is right.

Q And the price which is now being obtained for Turner Valley crude is, for the average of refinery run, at the present time, namely 43 to 43.9 degrees A.P.I., is $1.20?

A Well I have not the schedule in front of me, Mr. Frawley, but I will assume that is correct.

Q You will take it that is the posted price?

A Yes.

Q This is the price effective the 5th of January, 1938, F.O.B. field tankage, that is the time the last price was posted, was it not?

A Yes.

Q And the Imperial does not in fact post the price?

A No, it is posted on their instruction.

Q I notice that the National Petroleum News of the 1st of October, 1938 does make the statement in its crude oil market stage, that the prices are posted by Imperial Oil Limited, in fact it is the Royalite Oil Company.

A Yes.

Q And then the Royalite Oil Company buys the crude as its own crude, it is bought by the Royalite Oil Company Limited?

A Yes.

Q Taken as may be by the Royalite Oil Company, Limited,

from the X. Y. Z. Oil Companies that produce it?

A Yes.

Q It is the Royalite Company that takes that crude product from the producing company?

A That is right.

Q And then the Royalite Oil Company sells the same crude oil to Imperial Oil Limited?

A Yes.

Q As its own, the Royalite owns it temporarily at least?

A Yes.

Q And then sells it to Imperial Oil Limited, and receives a cheque from Imperial Oil Limited back to the Royalite Oil Company, for it?

A That is right.

Q In other words in the buying of this crude from the producers and the selling of it to the Imperial Oil Limited, the Royalite Oil Company is theoretically at least, and in fact, quite an independent entity?

A Yes.

Q Quite an independent Company?

A Yes.

THE CHAIRMAN: Now just to clear that up, the witness started out by saying that the Royalite bought only as agent of the Imperial.

MR. FRAWLEY: Yes.

THE CHAIRMAN: And the statement he makes now is quite inconsistent with that.

MR. FRAWLEY: Yes.

THE CHAIRMAN: It is only a matter of clearing it up.

MR. FRAWLEY: I think it is.

Q MR. FRAWLEY: Mr. McLeod, you just used the word "agent" and I let it pass. It is just a opposite it is not, you have a close relationship with Imperial Oil and you are asked to buy the crude it is true, but you buy the crude as Royalite Oil Company Limited, something which is quite different in law from Imperial Oil Limited, and you pay for the crude as the Royalite Oil Company Limited, and then you sell the crude to Imperial Oil, you are both principals, are you not?

A Well, Mr. Chairman, I am sure that I will be excused for not understanding the legality of this but that is what actually takes place. We are acting as agent for the Imperial Oil. We pay the producers from whom we buy with our cheque and we are reimbursed that amount by the Imperial Oil.

Q THE CHAIRMAN: Do you buy, do you do your buying on their instructions?

A We do our buying on their instructions.

Q You do not exercise an independent judgment when to buy or how much?

A No more than that they make their allottment to the Conservation Board from time to time of what their requirements are.

Q The Imperial do?

A The Imperial do. The Imperial tell me what they will require for say December and January and then I tell the Conservation Board. I submit to them our requirements for that length of time and the Conservation Board makes the allottment for each well and

we take that through our pipeline, that allottment. The Conservation Board submit us a list of the allottments of each well and we take that allottment and no more. I want to make myself clear because I do not understand the legality part.

THE CHAIRMAN: I am not exercised about that either.

WITNESS: I wanted you to get my idea of the practical part of it.

Q MR. FRAWLEY: Anyway that is what happens?

A Yes.

Q They tell you how much they will take and how they will take it and you, with that in mind, tell the Conservation Board and you do the buying?

A Yes.

Q And you say you use your own cheque to pay for it and get reimbursed to that extent?

A Yes.

Q Is the Royalite paid a fee for doing this for the Imperial or do you act as though you were two departments?

A We are paid no fee, sir.

Q No fee?

A For example, the Imperial said to me late last month that they would require 5500 barrels a day for Calgary refining and 5000 barrels a day for Regina refining and I transmitted that information to the Conservation Board. I expect that all other users of crude do the same thing and the Conservation Board arrives at a total for that whole field of what is going to be required for

December and January or as far ahead as we may be able to see and they make that allottment to each well according to their own calculations and that is the allottment which we take from each well.

Q MAJOR LIPSETT: Mr. McLeod, you buy this oil I understand at $1.20 at the moment?

A Well I have not the schedule of that before me sir, but I believe that is approximately correct.

Q Is that all that the Imperial Oil then pays you?

A Pardon?

Q Is that $1.20 all whatever it is all that the Imperial Oil pays you?

A Well each gravity of oil, sir, has its own price. For example if 45 gravity crude is worth $1.25, then 44 gravity crude is estimated to be worth $1.23 and each one of these shipments are tested for gravity and is paid on that basis. Now if the Royalite pays $1.45 for a thousand barrels of crude, 45 gravity, then the Imperial reimburses the Royalite for a thousand barrels of crude at 45 gravity.

Q How much do they reimburse them?

A The exact amount that they pay?

Q Does that mean then that the expense and cost of acting as agent for the Imperial rests and falls entirely on the Royalite Oil Company?

A Exactly.

Q What is the position of the 30% independent shareholders then, they are losing money over that, are they not, for the benefit of the Imperial Oil?

A We pay them the same price as anybody else.

Q No, I understand the Imperial Oil owns 68% to 70%

[illegible]

of Royalite?

A Yes.

Q And that the other 30% belongs to outsiders?

A Yes.

Q Now if you are performing the services, that is if the Royalite Company is performing services for the Imperial Oil for nothing and they are losing money over that, is not the Imperial Oil getting the benefit?

A I do not think we spend any money in performing those services.

Q You have to have a staff to make out the cheques and keep the accounts, don't you?

A Very small.

Q And do the buying?

A We make these contracts with independent companies in the hope that their oil is going through our pipeline at the present rate rather than being trucked and the Imperial Oil will benefit to that extent. If there was no profit in pipeline business, they secure that benefit from it, if there is no profit in the pipeline business the Royalite shareholders secure their benefit---

Q Is the pipeline owned by Royalite?

A The pipeline is owned by Royalite.

MAJOR LIPSETT: I am sorry to interrupt.

MR. FRAWLEY: Thank you.

Q MR. FRAWLEY: It does appear though, as Mr. Commissioner Lipsett says, that there is a service being performed you see for Imperial, for which they do not pay.

A Directly I would say they do not pay. Indirectly I would say they do pay.

Q They are saved from the expense of maintaining a purchasing department, which I think would be a reasonable compliment to a refining company's operations, but they are saved from that by asking you to buy their refining oil for them.

A Which would only add to the cost of gasoline.

Q Oh yes.

A And which we are endeavoring to avoid.

Q Now of course I do not want to pursue that too much. You do not really mean, Mr. McLeod, when you are neglecting or delaying to charge the Imperial Oil Company for the services which you perform for them in buying oil for them and with the idea that they should be paid saved those costs which they otherwise would have to bear, that would increase the cost of the finished product, you do not really mean that?

A I mean to say this, Mr. Frawley, that whenever it is possible to avoid an unreasonable cost the Imperial and all its subsidiaries have done everything in their power to adopt that practice.

Q I am anxious to know because this is something that I do not think Mr. LeSueur can tell us any more about it than you can. The fact is that the Royalite Oil Company is carrying on the business of buying oil for the Imperial and not charging them, with a view of keeping down the Imperial's costs of manufacturing gasoline and selling it to the public,

now that is a broad statement and I want to be sure that you agree with that before you answer.

A Yes, I will answer that by saying that I think that is the least that the Royalite owes to the Imperial Oil for its very existance.

Q Then I take it that the considered policies laid down by the Board of Directors of these two companies are that the Royalite should carry on this very considerable operation without charge to the Imperial because it feels it owes something to Imperial for creating it and bringing it into existance.

A Yes, and to answer that I would say in the early days of the Royalite they borrowed millions of dollars from the Imperial Oil Company to carry on its operations and paid that debt with stock. We surely owe that much to the Imperial Oil and none of the 30% or 32% of the minority shareholders have ever complained of the treatment that the Royalite has received from Imperial Oil.

Q It is all very interesting and it is something which we will have to inquire into, not because I do not accept your statement but it is something which we will certainly pursue it with Mr. LeSueur when he comes, as to what is involved in this that the Royalite does this work for nothing, because there is certainly work involved in it, I understand you have a man Mr. Bird who looks after these producing contracts and is engaged at that.

A That is a very very infinitesimal part of his work.

Q He does much other work?

A Yes.

Q MAJOR LIPSETT: Is there not this possibility in that arrangement, Mr. McLeod, that the 30% independent shareholders?

A Yes.

Q If the Imperial Oil Company gets that service then for nothing, is there not the possibility that that is increasing the profits of the Imperial Oil Company at the expense of these 30% or 32% shareholders?

A I think, sir, that this question has been very much enlarged. It was being made to appear as a monstrosity when it is only a flea bite. There is not one extra person engaged by Royalite to look after the purchasing or the bookkeeping in connection with the purchasing of this oil for the Imperial Oil. Not one person. I make that statement without any fear of being contradicted by anyone in the organization or outside of it for that matter and every person in the organization would draw the same salary as he now draws. The only difference is he might have a little less work to do, if we did no purchasing for the Imperial Oil.

Q MR. FRAWLEY: Now we have been confining ourselves to the oil which the Royalite purchases from other producers for the Imperial Oil?

A Yes.

Q You also produce oil, crude oil yourself, the Royalite Oil Company produces a lot of crude itself?

A Yes.

Yes.

MR. [illegible]: In other words, the possibility in that connection, is, of course, that the [illegible] independent [illegible]

Yes.

MR. [illegible]: The Imperial Oil Company gets the service in for nothing, so there is the possibility that the [illegible] profits of the Imperial Oil Company at the expense of these [illegible] shareholders.

I think, sir, that this position has been very [illegible]. It is [illegible] to [illegible] upon [illegible] it is [illegible]. There is not the extra [illegible] managed by [illegible] after the [illegible] the [illegible] production with the purchase of this oil for the Imperial Oil. Not on [illegible]. I make bold to [illegible] [illegible] being contended [illegible] in the [illegible] or [illegible] of it [illegible] that [illegible] every [illegible] in the [illegible] [illegible] come the [illegible] to be [illegible]. The only [illegible] is [illegible] to us, is [illegible] [illegible] the Imperial Oil.

MR. [illegible]: Have we have been [illegible] [illegible] solves to the oil which the [illegible] from other producers for the Imperial Oil?

Yes.

Not also gasoline oil, crude oil yourself, the [illegible] Oil Company produces a lot of crude [illegible]?

Yes.

Q And that is sold to Imperial Oil Limited?

A Yes.

Q And others?

A Yes. Now Mr. Frawley----

Q And---

A I just do not know the answer to that, Mr. Frawley, under existing conditions.

Q To my suggestion that they sell to Imperial Oil Limited and to others, you say you are not sure about that, is that it?

A Well I have no idea what you mean by "others".

Q I will ask you. There was certainly nothing hidden there, I understand that the Royalite Oil Company sold crude oil to a Saskatchewan refiner, anyone that might come up and want to buy it, am I wrong about that?

A Well I think since the Conservation Board took over it is a question which is very hard to answer, Mr. Frawley, because each well has its allottment and that allottment is determined by the market requirements. Now I do not know whether Royalite Oil goes to some man in Saskatchewan or whether it goes to the B. A. or the Bell Refinery or whether it goes to the Imperial Oil, it is all mixed.

Q Have you any cheques or any "hard cash" from any Saskatchewan refinery that has got some oil from Turner Valley?

A Has the Royalite?

Q Yes.

A No.

Q Then the Royalite Oil Company is not selling any oil to any Saskatchewan refinery. I presume they are not selling it if they are not getting paid for it?

A No.

Q You have not got any money from any Saskatchewan Refinery for crude oil?

A No.

Q So then you are not selling it. How about any Alberta refinery, any Alberta refineries buying oil from you?

A No, no Alberta refineries sends us their cheque except the Imperial Oil.

Q So you have just one person paying you for crude oil and that is the Imperial Oil?

A Yes.

Q Do you know whether or not any Saskatchewan Refinery is buying crude oil from Imperial Oil?

A Well yes, I am sure of that.

Q So Imperial is selling oil?

A Yes. I would not say that but I would say the Imperial is delivering oil to other refineries.

Q Well I do not want to get too involved but we will see if we can find out what is happening. There are many refineries in Saskatchewan, but let us take the case of the Consumers Refinery at Regina, and I do not know if he has got any oil from your Company or not but if he came up to Calgary and desired to get some oil and he went to the people that he thought had it, that is the Royalite, or the British American or the Imperial, the Royalite

if he came to the Royalite, as the Royalite would not do any business with him at all, they would not sell him any crude oil?

A No.

Q Then if he went to the Imperial Oil and to be not very accurate about it, would be go to Mr. Moore, the Refinery Superintendent?

A I would prefer that the Imperial Oil officials answer that question. I have answered for the Royalite.

Q I quite agree and we must not press you unless Mr. Nolan agrees that there is some value in pressing this. So far as Mr. McLeod knows, there is a value in what he actually knows about this.

A I have no knowledge of the details of how this is carried on. I would prefer not to answer except so far as the Royalite.

THE CHAIRMAN: Cannot you get some officer, Mr. Frawley, that does know all about this internal arrangement. Mr. McLeod apparently does not.

MR. FRAWLEY: No, we will have to go to the other company.

MR. NOLAN: Mr. McLeod knows all about the internal arrangements of the Royalite.

THE CHAIRMAN: Yes, and perhaps the word was unhappy but the arrangement between the Imperial---

MR. NOLAN: And other refineries.

THE CHAIRMAN: Quite so.

WITNESS: My idea, sir, that I am perfectly willing to answer anything of which I have full knowledge but of which I have just a vague knowledge

of something that I have heard I would prefer not to answer.

THE CHAIRMAN: Quite properly.

Q MR. FRAWLEY: Yes. You do not sell any oil to any outside refinery or to any refinery except Imperial Oil Limited?

A That is right.

Q All right. Then if any Imperial or Royalite or Imperial subsidiary is engaged in the business of selling oil to refineries in this Province or elsewhere, it must be the Imperial Oil Limited?

A I am not prepared to answer that.

MR. FRAWLEY: Have you any Imperial people here who will let me get on with my cross-examination.

MR. NOLAN: If my learned friend will go on with the cross-examination which pertains to the Royalite Oil Company he will get all the information which is available but if we are going to go into the question of the relationship between refineries out of this Province and the Imperial Oil Limited, this is not the gentleman who should be asked those questions.

MR. FRAWLEY: I agree with all of that, Mr. Nolan, but I am anxious to make the story as coherent as I can as I go along and I want nothing but an answer to that one question if I can get it. I do not intend to pursue it further with Mr. McLeod at all. I do not want your client to have to be here unduly but I think perhaps your refinery superintendent, Mr. Moore, should attend the inquiry and keep you informed.

MR. NOLAN: Not to inform me but to inform the Commission.

MR. FRAWLEY: To inform the Commission through you. I can make the assumption then, it must be so, what I am suggesting must be so. Mr. Plotkins says he buys from the Imperial Oil Limited, is that so?

MR. PLOTKINS: Yes.

Q MR. FRAWLEY: If then a refinery in Saskatchewan buys this oil---

THE CHAIRMAN: What refinery?

Q MR. FRAWLEY: Say the Consumers Refinery at Regina, or the Sterling Refinery at Yorkton, purchases its crude oil from Imperial Oil Limited, that is crude oil which the Imperial has purchased from the Royalite Oil Company?

A I do not think that is a fair question, Mr. Frawley, for the simple reason that Royalite Oil is not segregated from Sunburst Oil or from Anglo-Canadian Oil or any other oil. It goes through the common carrier, the common pipeline rather, and is mixed in one, two, thre or four tanks.

Q But it purchases its oil from the Royalite Oil Company, that is so is it not?

A But you said, would it be the oil that it purchased from the Royalite.

Q Yes,

A And I say that it is impossible to tell whether it purchases it from the Royalite, the Sunburst, the Anglo-Canadian or the Brown Corporation or someone else.

Q It is more involved and confused than I thought. Then we have the Imperial Oil sending its cheques to the

Brown Oil, the Sunburst, to the Anglo-Canadian, do they buy from those separate companies?

A We buy from several of them, not all of them.

Q THE CHAIRMAN: Not "we" you are just "Royalite".

A Royalite.

Q MR. FRAWLEY: Does the Imperial Oil Company buy all of its crude oil from the Royalite Oil Company?

A All of its crude?

Q Yes, all of Turner Valley.

A The Imperial Oil Company does not buy any crude except through its agent, the Royalite.

Q The Imperial Oil Limited sends a cheque every month to the Royalite Oil Company?

A Yes.

Q That is a cheque for the crude oil which it has had supplied to it for the previous month?

A For the crude oil which it has delivered and purchased.

Q And that cheque goes to the Royalite Oil Company?

A Yes.

Q And that is the Royalite Oil Company's cheque when it gets it?

A The Imperial Oil Company's cheque in favour of Royalite.

Q Yes, so that the Imperial Oil Company is buying its crude oil from Royalite Oil Company exclusively?

A Buying its crude oil through the Royalite Oil Company I would say, not from the Royalite.

Q MR. FRAWLEY: You will have to get some positiveness to this, Mr. Nolan, because it is getting to be a bit wearisome.

Q TO THE CHAIRMAN: Supposing in a case of the Anglo-

Canadian selling oil, which you yourself mentioned, crude oil?

A Crude Oil.

Q And which is ultimately acquired by the Imperial?

A That is right.

Q For its refinery?

A That is right.

Q Whose cheque goes to the Anglo-Canadian for that oil?

A The Royalite.

Q So no matter what the source of supply, whether it be from oil wells that the Royalite itself has drilled and produced oil from, or from other wells owned by independent people, it matters not, you the Royalite would buy the oil?

A That is right.

Q And the the Imperial would get it and give the Royalite its cheque.

A Would reimburse the Royalite for it.

THE CHAIRMAN: That seems clear.

MR. FRAWLEY: You are able to do something which I just could not do.

THE CHAIRMAN: It was a misunderstanding. I am sure Mr. McLeod is willing to give you any in ormation you desire.

Q MAJOR LIPSETT: Just to get the position a little clearer, Mr. McLeod, I understand, Mr. McLeod, you have a local buyer and that you do all this buying.

A That is correct.

Q Some of that oil, you supply the oil then to the Imperial?

A Yes.

[illegible]

[illegible] mentioned,

[illegible]

[illegible] conditions on [illegible] Imperial

[illegible]

[illegible]

[illegible]

[illegible] for their [illegible]

[illegible]

[illegible] distilled

[illegible] owned by [illegible]

[illegible] the [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]: [illegible] was [illegible].

[illegible]: You are able to do something [illegible]

[illegible] and now [illegible].

[illegible]: It was [illegible]. [illegible]

[illegible] talking to [illegible] you say in [illegible] your

[illegible].

MAJOR [illegible]: [illegible] not the [illegible]

[illegible], [illegible], I [illegible] [illegible] have

[illegible] but [illegible] do all [illegible]

[illegible] in [illegible].

[illegible] the [illegible] supply the oil [illegible] to

[illegible]?

Q And some of that oil is used in the Imperial Refinery?

A In Calgary.

Q In Calgary.

A Yes.

Q And some of it I understand is shipped by Imperial to Regina and other places?

A That is right.

Q Now in all those cases you simply get reimbursed by the Imperial your net costs that you paid for the crude?

A That is right.

Q Doesn't that mean then that all the profit on the re-selling of the crude to Saskatchewan or any other point is all secured by the Imperial?

A There is a profit.

Q And you incur all the expenses.

A If there is a profit, yes.

Q You do not know that?

A I do not know that.

Q But Imperial takes everything and Royalite does all this work without any cost to the Imperial?

A Yes, without any direct cost, sir.

Q THE CHAIRMAN: You had better pursue that, Mr. Frawley.

Q MR. FRAWLEY: Now you say "without any direct cost", now what other cost is there that Mr. Morrison can look for to see in what manner the Imperial pays anything to Royalite for carrying on the purchasing operation?

A I will just cite one example, Mr. Frawley. The

gauger of the pipeline division goes to a producer's tank when notified that there is a shipment ready and we will say that there is 1000 barrels of oil ready for his shipment, the tank is gauged and in the presence of the operator of the independent company, and he signifies by his signature that he agreed to the gauging, and the pump is started. After the delivery has been made the tank is again gauged by the gauger of the pipeline division in the presence of the operator for the independent producer and they found that 1000 barrels of oil has been shipped from that tank.

Q May I interrupt you there, delivery is made where?

A So far as the producer is concerned it has left his tank, that is all he is concerned about, a 1000 barrels has left his tank.

Q And delivery is made to your gathering line we will say?

A Yes, he is given a ticket for 1000 barrels less 1% deduction for evaporation and pipeline loss. In other words he is paid by the Royalite for 990 barrels of oil and the Imperial reimburses the Royalite for 990 barrels of oil. If there is any gain in that 10 barrels, it goes to the Royalite which helps to reimburse them for their purchasing or any other loss that they might sustain.

Q The Royalite helps to reimburse the Royalite?

A Yes. Now that is an indirect charge that is made against the Royalite, or I mean against the Imperial and every other buyer of crude oil.

Q MAJOR LIPSETT: In fact, Mr. McLeod, is that 1%

not required for evaporation?

A In a good many cases, sir, it is.

A But your other suggestion is that there is a profit out of that 1%.

A We hope it will take care of all evaporation, pipe-line losses or any other incidental expenses not already provided for.

Q Just balance that without any profit?

A We hope that that will be so.

Q I think you said the gauger?

A Yes, the man who measures the tank.

Q Is that an officer of the Royalite?

A No, he is a workman.

Q Is he an employee?

A He is an employee of the Royalite.

Q And is that part of his duty?

A That is part of his duty.

Q And paid for by the Royalite?

A Yes, and he gauges that tank in the presence of a representative of the producer of that crude.

Q MR. FRAWLEY: Now you are citing that as an instance of how the Imperial Oil Company paid you something,

A Yes.

Q Paid you something for carrying on this purchasing for it without charge?

A I stated, Mr. Frawley, that that might be one of the indirect charges that could be allotted to that particular service which we performed for Imperial Oil.

Q I cannot just follow how the Imperial, the Imperial only pays you for precisely what you deliver to it,

let us think about the Imperial?

A No, no, if we measure a 1000 barrels of oil and so report it, the Imperial will have to pay for 1000 barrels of oil.

Q Now there is some check , I suppose there is some check at the delivery point, is there not?

A Oh yes.

Q Then the Imperial Oil remains in Calgary?

A Yes.

Q And the oil is delivered to the refinery?

A Yes.

Q And they only pay you for such oil as you deliver to them?

A No, that is not right.

Q That is not correct?

A No, they pay for such oil as we measure in the field tank and that 1% is to take care of the evaporation and pipeline losses.

Q Now we may have to pursue that. You go to the Anglo-Canadian 1 or whatever the well might be.

A Yes.

Q And they say they have a 1000 barrels of oil in their field storage.

A Yes.

Q And your employees go there and measure out a 1000 barrels?

A Yes.

Q And some record is made which evidences the fact that delivery has been taken from the operator's storage, of 1000 barrels?

A Yes.

Q Then the oil is transported, it is thrown into your trunk line?

A Yes.

Q And with a lot of other oil, a 1000 from another well and 500 from another?

A Yes.

Q And then it is pumped through to the Imperial plant?

A Yes.

Q And at the Imperial plant in East Calgary you make delivery of so many barrels of oil?

A Correct.

Q Say 5000 barrels of oil?

A Yes.

Q Well they pay you surely for 5000 barrels of oil?

A Yes, if we have measured 5000 barrels of oil but not on the gauge that goes to the Imperial tank but the gauge which was made at the Turner Valley tank, but there is one thing we must do, we must deliver them, Mr. Frawley, 99 barrels of oil for every 100 that we have measured and if it is below 99 it is our loss. If it is above 99 on the other hand it is our gain.

Q Well I thought, I knew this, that if, that since you have taken delivery of the 1000 barrels from the independent operator's field storage?

A Yes.

Q You pay him, sooner or later you pay him for 990 barrels?

A That is correct.

Q Now there is no doubt about the operator suffering this pipeline deduction, there is no doubt about that, he is only paid---

A There is 1% deducted.

Q He has delivered to you, according to the gauges, 1000 barrels of oil and he is paid for 990?

A That is right.

Q Now a thousand barrels, let us take it in one operation and not confuse it, you pump through that 1000 barrels of oil from this one operator?

A Yes.

Q And you take it to Calgary and you make delivery of, supposing we assume that you actually make delivery of 995 barrels of oil?

A Yes.

Q To the Imperial Oil Company?

A Yes.

Q How much are you paid for, what is the amount of the cheque which you get, never mind the dollars and cents, but for how much does your cheque read when you get it?

A It is the equivalent of 1000 barrels of oil at the price of that output.

Q The Imperial Oil Company then pays for 1000 barrels of oil?

A Yes.

Q Although it has only had delivered to it 995 barrels?

A Correct.

Q And if that should have been only 990, if you had only delivered 990?

A Yes.

Q The Imperial Oil Company is paying you for 10 barrels which they do not get?

A That is right.

Q And the producer of course has only been paid by you for 990?

A That is right.

Q And if you deliver the whole 1000, let us say with a loss of only 1 barrel in the 1000, the Imperial Oil Company pays you for 1000 and you have for your Profit and Loss statement or some other place, 9 time $1.20 in dollars and cents?

A We have 9 barrels.

Q Now Mr. McLeod, we have been talking about oil that you have, we are talking about oil that you purchase from other companies but you still sell to the Imperial Oil Company a great deal of oil that the Royalite Oil Company produces?

A Yes.

Q And that of course is an independent operation, I mean here is the Royalite Oil Company, over here producing crude oil?

A Yes.

Q And the Imperial Oil Company refining crude oil?

A Yes.

Q And that is just a straight purchase and sale?

A That is right.

Q You simply sell them crude oil?

A That is right.

Q So in that operation you are acting on your own for your own shareholders and for your own company, The Royalite, and you are simply selling crude oil to the Imperial Oil like you might be selling to anybody else.

A Yes.

Q But you don't happen to be selling it to anybody else, you just sell to Imperial Oil Limited?

A That is all.

Q And then for some good business reason known only to yourself, and Imperial Oil Limited, other third parties, like the Lion Refining, come in and desiring crude oil, goes to the Imperial Company which has just bought it from your company and it is the Imperial that sells it to the independent refinery?

A Yes.

Q The Royalite Oil Company might have just as well, being in the business of producing and purchasing crude oil, might just as well have dealt direct with the Lion Company or the Consumers Company in Regina or the Sterling in Yorkton, but that is not the way it is done, it is the Imperial that sells the oil to these other refineries?

A Yes.

Q Now do they have a separate department for that, Mr. McLeod?

A I cannot answer that.

Q You don't know about that?

A No.

Q MAJOR LIPSETT: Is there any check on this pipeline, is there any check at all on the oil going into the Imperial Refinery?

A Oh yes, absolutely, every day the loss or gain is shown on the pipeline delivery.

Q Supposing through some mishap you bought a 1000 barrels less your 1%.

defaulters.

But you don't [illegible] be buying it to anybody else, you just sell to Imperial Oil Limited?

That is all.

Then for some good business reason known only to yourself, to Imperial Oil Limited, other than [illegible], like the line building, come in and demanding some oil, goes to the Imperial Company which has just bought it from your company and is the Imperial that sells it to the independent producer?

No.

The royalty oil company may have just as well, being in the business of producing and producing, [illegible] just as well have sold direct with the Union company or the Consumers Company in Toronto or the Sterling in Yorkton, but that is not the way it is done, it is the Imperial that sells the oil to those other refineries?

No.

Not on that now a separate depot and for that,

Mr. Lefebvre?

I cannot answer that.

You don't know about that?

No.

MR. [illegible]: In case any circuit on this pipeline, is there any concrete oil on the oil going into the Imperial Refinery?

Of course, [illegible], every day the line is again [illegible] to the pipeline delivery.

Supposing there is some tank, say you [illegible] 1000 barrels, [illegible].

A Yes.

Q And supposing through some mishap only 900 barrels arrived at the Imperial Refinery?

A Yes.

Q That would be known immediately?

A Oh yes.

Q What would happen about that loss?

A Well I will give you an illustration of that, sir. Soon after this 6" line was put in operation last Spring we had a serious break between Calgary and Turner Valley and as soon as the refinery gauger did not correspond with the gauging at the field end, with the field gauger, the pumps were shut down. We knew there was something happening on the line, that there was a leak there some place because we were not receiving enough here. You see the two gauges are connected by telephone with a direct line, every hour to each other, the one man in the Valley reports what he has sent out, the man in Calgary reports what he has received and if there is a large discrepancy there the pumps are shut down and we immediately start looking for a leak. In this case we found a leak amounting to some 2300 barrels of crude oil.

Q That is a special case?

A That is one, that is about as bad a case as we have had yet.

Q What I am trying to get information about, was the actual practice.

A Yes.

Q You send 900, you send 1000 barrels to the Imperial

on which you deduct 1%?

A Yes.

Q Now that goes into the Imperial we will say at 980 due to evaporation or anything.

A Then the pipeline would be the loser by 10 barrels of that shipment, sir, because they were forced to deliver to the Imperial 990 barrels because the deduction only allows for 1%.

Q Then the Royalite Oil Company would lose that extra 1%.

A They would lose that 10 barrels, sir.

Q Although they are getting nothing at all for the service, thank you, I was just trying to get that.

Q MR. FRAWLEY: I understand you there, Mr. McLeod, in this instance, you just gave to Major Lipsett.

Q MAJOR LIPSETT: May I interrupt once more, that is a case where there were only 980 barrels received.

A If there were only 980 barrels received out of that 1000, sir, the pipeline would be loser by 10 barrels.

Q That is the Royalite would?

A Yes.

Q And if there were 995 barrels received by Imperial?

A The Royalite would be the gainer by five barrels.

Q And the Imperial would be paying for what?

A 1000 barrels because we gathered that in the tank for them. Any deductions which are made are the responsibility of the pipeline division of the Royalite Oil Company. If they win in that deduction all right, if they lose they have to take it.

Q Yes, but will not the Imperial only pay on the 995?

A No sir, they pay for 1000 barrels.

Q And if it is 980 they will only pay on 980?

A They pay on a 1000 barrels less 10 barrels, because we should have delivered them 990 barrels.

Q They will pay you in other words 1000 barrels for 990?

A That is right.

Q And you have to take any further loss?

A We have to take any further loss.

Q THE CHAIRMAN: They recognize your 1%?

A That is right.

Q And anything over that.

A Just common pipeline practice.

Q 1% allowed for depreciation?

A Depreciation and leak.

Q MR. FRAWLEY: If 985 barrels were received by the Imperial Oil, they would pay for.

A 1000 barrels less 5 barrels.

Q If 990 barrels were received by the Imperial Oil, the Imperial Oil would pay you for.

A 1000 barrels.

Q If 995 barrels were received they would pay you for.

A 1000 barrels.

Q And if 1000 barrels were received by the Imperial Oil they would pay you for?

A 1000 barrels.

Q That is as you understand the situation today?

A Yes.

Q Now prior to the month of October 1936 it was done in a different way, was it not?

A In a different way, you mean the deductions were

A. No sir. We [illegible] for 1000 barrels.

Q. And if it is 300 they will only pay [illegible]

A. It is not [illegible] 1000 barrels. [illegible] 10 barrels. [illegible] would have [illegible] over 300 barrels.

Q. They will pay you if you make 1000 barrels for 1907?

A. [illegible]

Q. And you have no take-[illegible] further loan?

A. We have to take any further loan.

Q. The [illegible] They requirements [illegible]?

A. That is [illegible].

Q. And anything [illegible]?

A. Just common [illegible] practice.

Q. If allowed for [illegible]?

A. Depreciation and [illegible].

Q. MR. MRWINK: If 300 barrels were received by the Imperial Oil, they would pay for.

A. 1000 barrels less 5 barrels.

Q. If 390 barrels were received by the Imperial Oil, the Imperial Oil would pay for.

A. 1000 barrels.

Q. If 395 barrels were received they would pay for.

A. 1000 barrels.

Q. And if 1000 barrels were received by the Imperial Oil they would pay for.

A. 1000 barrels.

Q. What is as you understand the situation to day?

A. Yes.

Q. Now prior to the month of October 1906 it was done in a different way, was it not?

A. It was different way. We mean the deductions were

different?

Q No, I do not mean the amount of the deductions were different but your relationship to the Imperial Oil Limited was not just exactly as it is now?

A Well I would have to go into the records to find that out.

Q At the time you made this contract, which was the time you made your first contract with the British American, which is dated the 18th of September, 1936, that was the fact around about that time. Now somebody else may have to say---

A I am very sorry to plead infirmity as an excuse for not being fully familiar with that, Mr. Frawley, but at the very time that happened I was confined to the house for a period of six or seven months, and I am sorry that I cannot answer you definitely on that. I would like to.

Q I think---

A I will do anything, if you will prepare a question I will do my best to get you the correct answer.

Q There is good corroboration for the fact that you must have been ill because here Mr. Hurd signed it as a director and Mr. Burns, you would have signed it if you were at the office.

A I do not think that is right but I do know that I was not around at that time.

Q It was made up for the president's signature but that was crossed out.

A I should have familiarized it myself with it but I didn't and I am sorry.

Q Now this pipeline deduction is now 1%?

[illegible]

[illegible]. I do not see the [illegible] conditions were different for your father [illegible] and of his [illegible] that are [illegible]

[illegible] I [illegible] ye to go [illegible]

[illegible]

[illegible], as seems [illegible] comment, [illegible] [illegible] made, [illegible] first [illegible] [illegible]. Which is [illegible] [illegible] the feet [illegible] but [illegible] [illegible] may [illegible] have to [illegible]

[illegible] very sorry to [illegible] [illegible] [illegible] not being fully [illegible] [illegible] that, in [illegible] [illegible] at the very [illegible] period I was confined to the house for a [illegible] or two or two months, and I am sorry that I [illegible] [illegible] you definitely on [illegible] I would like [illegible]

I think----

[illegible]

I will do anything, if you will prepare a question.

I will do my best to get you the correct answer.

There is good corroboration for the fact that [illegible] [illegible] have been ill [illegible] [illegible]. Had [illegible] [illegible] a director [illegible]. Hence, you would have [illegible] if you were at the office.

I do not think there is [illegible] but I do know [illegible] was not around at that time.

[illegible] was [illegible] for the president's [illegible] [illegible] was crossed out.

[illegible] have [illegible] [illegible] [illegible] I didn't [illegible] I [illegible] sorry.

How this [illegible] question is for [illegible]

A That is right, on crude oil.

Q And there have been changes in that; it was originally how much?

A Originally the deductions were 3% and that was at a time when there was not very much crude oil. Soon after the crude oil was discovered in quantity I had a long discussion with the Minister of Lands and Mines and the Director of Lands and Mines, regarding what the deduction should be, now that we had found crude oil, and we agreed that, for the time being, the deductions on light products, that is naphtha and absorption plant products, should remain at 3% but that on crude oil it should be 2% and the Minister stated at that time that those would prevail until we had an opportunity to make a thorough investigation and find out what the deductions actually should be in order to clear us. I am not sure that he ever made that investigation. If he has done so it is without my knowledge but voluntarily we reduced it on crude to 1% and on lighter products to 2%.

Q Well was it ever 3% on crude?

A For a brief time, Mr. Frawley, yes.

Q And then it came down to 2%?

A By arrangement as I have stated with the Minister of Lands and Mines and the Director of Lands and Mines.

Q And then it came down to 1%?

A Yes.

Q I suppose it is fair to say to you that it came down because you felt that the higher charge, a continuation

of the higher charge was not justified on your experience?

A We realized we had a very light crude to handle and not having had much experience with this class of crude we experimented and found that it was not necessary to deduct 2% and we reduced it to 1%.

Q The charge is only there in the first place, and is only being made today, because you feel it necessary to protect your Company from the evaporation and pipeline loss?

A That is right.

Q It is going to compensate you for what will be the actual physical loss of material?

A That is right.

Q By the way, you said something back a bit ago about the Conservation Board and the effect that its policies had had in the relationship between your Company and say the Imperial or other refineries, before there was a Conservation Board at all, that is prior to last August say--

THE CHAIRMAN: Before you open up that I think perhaps we might give the reporter a short rest. We still have only one reporter.

MR. FRAWLEY: Yes.

THE CHAIRMAN: We will adjourn then for a short time.

(AN ADJOURNMENT OF FIVE MINUTES WAS HERE TAKEN).

Q MR. FRAWLEY: Mr. McLeod, the Conservation Board only began its operations about last August, didn't they, last July or August?

A About that time, sir.

Q And before that time the Royalite was doing pretty well what it liked, that is what you tell us it is now doing, it was producing crude oil in Turner Valley?

A Yes.

Q Purchasing crude oil in Turner Valley?

A Yes.

Q And selling to the Imperial Oil Limited exclusively?

A We were delivering to the Imperial Oil crude which we purchased as its agent.

Q That is what you are doing?

A Yes.

Q So you were doing the same thing then?

A Yes.

Q You do not mind if I keep using that word because that is how it is going to come out I take it in the end, you are selling crude oil to the Imperial?

A I do not think so.

Q You do not think that is what you are doing?

A No, I think the Imperial Oil commissioned us to buy crude as we are doing and authorized us to act as their agent. We were not buying this on our own, because we have no use for it. We have the oil sold before we had bought it. Let us put it that way, Mr. Frawley.

Q Perhaps it will help you, Mr. Morrison has spent some time on your books, has he not, Mr. McLeod.

A So far as I know he has.

Q And he tells me your books show that you are selling crude oil to the Imperial Oil?

A That may come up as an accounting but that is not

my odea of the way it is done.

Q So I do not know what point you want to make, but if you want to make it, make it now, but you have told me there is no real change with your operations, in a change of your relations with the Imperial Oil, it is just the same as it was before the Conservation Board began to prorate the field?

A No more than I nominate, on the Imperial Oils' nomination its crude requirements to the Board rather than putting them into effect ourselves, which is much to our advantage.

Q But in the end you are performing the same function to and for the Imperial which you were doing before the Conservation Board was organized?

A Quite so.

Q Now there is just one point I may as well bring out now, because it will have to be gone into, you do a very limited amount of carrying for others than the Imperial Oil, very limited?

A I would not say very limited.

Q How many people now are, to use an illustration, to use the illustration of the cheque, from how many people do you get cheques for your 15¢ a barrel pipeline rate, from how many companies?

A From the British American.

Q Yes.

A And from Mr. Plotkin.

Q And.

A Well that is all I can think of.

Q And the Imperial Oil?

A And the Imperial Oil.

Q So you get your pipeline revenue at the present rate of 15¢ a barrel from three companies at the moment, the Imperial Oil Limited, The British American Oil Company and the Lion Refining Company?

A That is all I have in my mind at the moment. There may be others.

Q Those are all I told you.

Q THE CHAIRMAN: You mentioned Mr. Plotkins, Mr. Plotkins represents?

A The Lion Oil Company.

Q Yes, he is the Lion Oil Company so far as you are concerned?

A Yes.

MAJOR LIPSETT: Is the rate accepted, that it is 15¢?

Q MR. FRAWLEY: I want to get that on the record at the same time, let us just interrupt now, and will you tell the commission what the pipeline rate is now and how long it has been that and what it was before, back to the beginning of the charging of any rates, I have something, have you some record there?

A Yes, I have something here. This record goes back to the 1st of January 1933, to the 30th of September 1933, and the pipeline rate was 30¢ per barrel and during that period the average daily pumping to the refinery was 1479 barrels per day.

Q Let me stop you there, Mr. McLeod, what you say was the first time that you made a charge for the carrying of oil through the line?

A No, that is as far as this record goes back, Mr. Frawley. That is as far as I have it at the moment.

Q I have the same record commencing on the 1st of January 1933, but prior to the 1st of January 1933, was the pipeline transmitting crude oil or crude naphtha?

A It was transmitting crude naphtha in quantity but very little crude oil as I recollect. I would have to go into the records for that.

Q And the Royalite Company was being paid for that transmitting by the Imperial Oil Company?

A Yes.

THE CHAIRMAN: Couldn't we have a statement prepared, Mr. Nolan, I mean it would be very much handier to the Commission to have something which should be made an exhibit.

MR. NOLAN: Yes, my Lord, there is a statement in Mr. McLeod's hands from the 1st of Januayy 1933, which can be put in now as an exhibit, showing in each instance the rate, the date upon which it came in and the daily average pumping throughout the period of the different current rates. I think that is what you want, sir.

MR. FRAWLEY: Yes, that would do, except I do not know why, there may be good reason for the Company, for starting on the 1st of January 1933 but I would prefer for it to start atthe beginning of the pipeline operation.

THE CHAIRMAN: That is what I understood from Mr. Nolan, that it should be carried back. It can be carried back, Mr. McLeod.

WITNESS: Yes.

MR. NOLAN: And we will file with the

Commission the history of the rate and show in each instance the date.

WITNESS: There is no question about that.

FRAWLEY: I will put this in now.

MR. NOLAN: Let us put it in later as a whole.

MR. FRAWLEY: We can put it on the record.

MR. NOLAN: That it will be produced.

MR. FRAWLEY: We can put it on the record now.

Q MR. FRAWLEY: Then the rate changed on the 1st of October 1933 and what happened to it then?

MR. NOLAN: May I suggest, sir, that we do not put it on the record now, that we put it on the exhibit that will be marked.

MR. FRAWLEY: There are only two or three lines to this.

THE CHAIRMAN: Unless, Mr. Frawley, you have something arising out of it that you want to question of it, you might as well wait for the exhibit. If there is some collateral question which arises out of it do not let us stop you.

MR. FRAWLEY: Mr. McLeod, you might just consider that for a moment and keep that in mind. Mr. Morrison suggested that it arose out of a question by Major Lipsett whether the rate was 15¢.

Q MR. FRAWLEY: Let me ask you this, when did the 15¢ rate apply?

A For the period of the 5th of January of 1938 to the 31st of December 1938, the pipeline rate was 15¢ per barrel.

Q The present rate of 15¢ went into effect on the 5th of January of this year?

A Yes.

Q Then you will file the other later?

MR. NOLAN: Yes.

THE CHAIRMAN: While I remember it, you are not forgetting the map, Mr. Nolan, before we part?

MR. NOLAN: No my Lord.

THE CHAIRMAN: If I might just interject that while I think of it, while you are speaking of filing things.

MR. FRAWLEY: That seems a long way back now.

THE CHAIRMAN: Yes, I was afraid it might escape your attention.

MR. FRAWLEY: As a matter of fact, yes, I should say perhaps, what we finally did about that was that Dr. Link agreed that Mr. Ower of the Provincial Office could go through it and superimpose the things that we asked him to superimpose and we will show it to my learned friend and he can object to it, that should be done within a day or two.

THE CHAIRMAN: How long do you intend to carry on at this time?

MR. FRAWLEY: At this time?

THE CHAIRMAN: The present sitting, it is only speculation I know, but to give us some idea, will you be occupied for the next two or three days?

MR. FRAWLEY: Yes, two or three days. I was hoping after we finished this then to adjourn over the Christmas season.

THE CHAIRMAN: That is so. The witnesses you will have available will occupy about three days.

MR. FRAWLEY: I thought one day, and now I think certainly two and perhaps part of the third.

THE CHAIRMAN: All right. Sorry to interrupt you.

MR. FRAWLEY: Quite all right.

Q MR. FRAWLEY: The Imperial Oil Company is your chief customer and supplies you your chief revenue in the way of pipeline rates?

A Yes.

Q MR. FRAWLEY: We will go into that perhaps later, but just to complete the general picture, The British American Oil Company, you also transport oil for the British American Company and they pay you 15¢ a barrel?

A That is right.

Q And their relations with your company as a pipeline operation commenced with this contract dated the 18th of September 1936, that is true is it not?

A That is right.

MR. FRAWLEY: Perhaps we had better file this. I presume you recognize the signature of this distinguished British American gentleman, Mr. Ellsworth the President.

MR. NOLAN: We will admit for the purposes of the record that that is the agreement.

Q MR. FRAWLEY: It is the duplicate agreement and that is Mr. Burns' signature.

A Yes.

AGREEMENT WITH B. A. OIL COMPANY
PRODUCED AND MARKED AS EXHIBIT 29.

THE CHAIRMAN: You might describe it.

MR. FRAWLEY: It is a contract between the British American Oil Company and the Royalite Oil Company. The British American being described as "the producer" and the Royalite Oil Company Limited being described as "the transporter", covering transportation of crude oil from Turner Valley to Calgary, and dated the 18th of September 1936.

Q MR. FRAWLEY: Now Mr. McLeod, from the record you have there will you tell me what rate per barrel was being paid on the 18th day of September 1936?

A This record shows, Mr. Frawley, that for the period October 1st, 1933 to the 3rd of October 1936, which includes the date you mention, the pipeline rate was 25¢ per barrel. During that period the daily pumpings were 2208 barrels but that was immediately changed. On October 4th, 1936 it was changed to 22½¢ per barrel.

Q Yes, I mention that because the rate which was contracted for in this agreement Exhibit "29", by paragraph ten was 22½¢?

A Yes.

Q Delivered to the British American storage tanks at Calgary?

A Yes.

Q Then your rate to everybody, Imperial or anybody else that wanted to use the pipeline, was 22½¢?

A Immediately after that or very soon after that.

Q And then as the rate was changed this contract was automatically varied in that respect?

A So far as I know, Mr. Frawley, only verbally.

Q Yes.

A Or possibly by letter but not a new contract.

Q Yes, because I asked for any amendments to this contract, and apparently there were not any?

A No.

Q So the contract stands but the rate has been changed from 22½¢ to 17½¢ and then 15¢?

A That is right, voluntarily on our part.

Q Now up to say some time this year, 1938, did you still have just two customers, the Imperial Oil and the British American?

A Well, I cannot give you the date when Mr. Plotkins started taking.

Q That is what I mean, but he is now the third customer?

A Yes.

Q And you have only three?

A Yes.

Q And did he come in some time in 1938?

A Well he has been taking in 1938.

Q He says April. Will you accept that, April 1938, as the date?

THE CHAIRMAN: He is the third, have you the Imperial Oil Contract?

Q MR. FRAWLEY: Oh contract, have you the contrac Mr. McLeod, with respect to the movement of crude oil for the Imperial Oil, similar to Exhibit "29"?

A No.

Q There was no contract with them at all?

A No.

Q Is that contract and the price, the payment of the

price, evidenced by any writings of any kind, exchange of letters or anything of that sort?

A It may be by exchange of letter, I cannot answer that offhand.

Q Would you mind doing that, Mr. McLeod, looking that up.

A Yes, we will have that looked up.

Q And bring any documents you have?

A There is no documents, there might be a letter.

Q There might be a resolution of your board?

A Yes.

THE CHAIRMAN: You will check that, Mr. Nolan.

MR. NOLAN: Yes, my Lord.

Q Then we come to Mr. Plotkin, and he said April 1938, that that was the date, will you accept that?

A Yes.

Q And he does transport oil, his own oil to your pipe-line.

A Yes.

Q And have you the contract with Mr. Plotkin?

A No, that is a gentleman's agreement, Mr. Frawley.

Q And he pays though the price which you, he pays the price which is the only price there has been since the 5th of January 1938, 15¢?

A Yes.

Q Now what other charges are made by the Royalite Oil Company in addition to the 15¢ per barrel?

A What other charges are made to whom?

Q To the Imperial, the British American and the Lion, your three customers.

A Well I cannot answer for the British American. There

are no other charges made to the Imperial. I have nothing to do with what happens to the British American Oil Company's orders after theyonce reach our terminal in Calgary. Some of it is processed by the Imperial Oil in their East Calgary refinery, some of it is delivered by the Imperial Oil to the British American Company in their Bell Refinery in Calgary and some is delivered or loaded in tank cars rather, for British American at Moose Jaw.

Q But I am speaking of the Royalite Oil Company, what does it do with the British American Oil?

A It delivers it into its terminal tankage in East Calgary.

Q In whose terminal tankage?

A The Royalite.

Q The Royalite delivers the British American Oil into the Royalite tankage in East Calgary?

A The Royalite tankage.

Q And the British American do whatever they like with it?

A They give their orders for delivery of that oil to, I presume the Imperial Oil Superintendent.

Q We will ask Mr. Moore about that. You simply then make one charge, 15¢, and deliver it to your storage you say?

A Yes.

Q In East Calgary?

A Yes.

Q Well incidentally that same clause "10" says that it is to be delivered by you to the British, to the producers' storage tank, that is the British American

storage tanks in Calgary, has that been changed since the 18th of September 1936?

A Well I think that is a misunderstanding, Mr. Frawley, because the British American Oil Company have no tankage at our terminal of which I am aware of. That may be an error. I don't remember it and have not had anything to do with it?

Q You have never delivered oil into the producers, let me call them, the British American Company's storage tanks in Calgary?

A No.

Q You have always delivered it into your own?

A That is right.

Q And you then only charge them 15¢?

A That is right.

Q Anything else which they pay for handling or loading or anything else, if they do, they pay it to somebody else besides yourself?

A Yes.

Q Now the Lion Refinery, they also pay you merely 15¢?

A Yes.

Q And you deliver that oil where?

A We deliver it into our tankage and at their order deliver it as they require it, either into tank cars, the Imperial delivers it into tank cars or if they require it at their refinery it is delivered through a pipeline to their refinery.

Q Do you deliver it first into your storage tanks?

A Yes.

Q THE CHAIRMAN: The Royalite?

A Yes.

Q MR. FRAWLEY: Now what does the Royalite do with it further than that?

A Actually they do nothing. The Imperial Oil on Mr. Plotkins' instructions does that.

Q THE CHAIRMAN: Any charge for storage?

A There has not been to date.

Q MR. FRAWLEY: You put it in your storage there in East Calgary and if Mr. Plotkins does not take it out immediately, there is at least no storage charge you say?

A Well there has not been to date, Mr. Frawley. At the present time Mr. Plotkins has 2790 barrels of oil in storage, 959 barrels of which has been there for 18 days and 950 barrels has been there for 12 days, 878 barrels has been there for 1 day and there has been no storage charged on it.

Q Now there is something there which I think is germane to this, do you own any storage in East Calgary?

A Not own it outright. We rent storage.

Q You do not own any?

A No.

Q You do rent certain storage?

A Yes.

Q THE CHAIRMAN: In East Calgary?

A In the East Calgary Refinery.

Q Is that different from the storage tanks which you have just been speaking about for which you make no charge or are you talking about the same one?

MR. FRAWLEY: We are talking about the same storage tank.

THE CHAIRMAN: You have moved to East Calgary now?

Q MR. FRAWLEY: Let us be clear about that, I will keep roughly to East Calgary, that is the Imperial Oil Limited refinery plant, that is in East Calgary?

A Yes.

Q And that is the place you say you have storage into which you moved Plotkins' oil?

A Yes.

Q And the British American's oil?

A Yes.

Q And the Imperial Oil Company's oil?

A Yes.

Q Now that is called the Royalite Oil Company's storage tanks?

A Yes.

Q But you do not own them?

A The pipeline division of the Royalite Oil Company controls that storage by paying rental.

Q Well you might go further and say the Royalite Oil Company controls it, by paying rental to the Imperial Oil Company?

A Yes.

Q The tanks were built by the Imperial Oil Company?

A Yes.

Q And you pay them rent?

A Yes.

Q You pay them about $3,000 a year roughly on that storage, I mean per month, about $3,000 a month?

A Approximately that.

Q About how much storage have you got there?

A 200,000 barrels.

Q Well now I venture to ask you, why you pay any storage, why you want storage, why the Royalite Oil

Company wants storage and rents it from the Imperial Oil Company, when I would think that at all times the tanks are in large part filled with Imperial Oil, Company's Oil?

A The furnishing of storage at the terminal of a pipeline company where there is more than one customer has always been considered pipeline practice; that is in vogue I think throughout the oil world today, any transportation company that has more than one customer provides storage for the accommodation of those customers.

Q Well the reason I bring it up, Mr. McLeod, so there will be no surprise, Mr. Morrison has completely thrown that out of your account and I want to ask you something about it, why you feel you needed it and how it arose why you have it and why you are paying $3,000 a month to the Imperial Oil Company for this storage which you do agree, do you not, at all times about, what would it be, 80% of the oil in those tanks belongs to the Imperial.

A I would not attempt to make a guess at the percentage but I fail to see that that makes any difference for the simple reason that any pipeline company who intends to give efficient service, should furnish storage tanks for its various customers throughout the season.

Q That is quite true and---

A And at the present time we are being asked or at least it has been suggested by producers in the field that the storage tanks of the pipeline Company are inadequate in size to take care of the

producers requirements.

Q Of the producers requirements.

A For the simple reason that he wants to produce his well evenly throughout the year so that he can take care of the flush market without producing his well inefficiently as he did last year.

Q This is Turner Valley storage you are talking about now?

A No, not necessarily. It does not matter where the storage is. You had better have it here where the call comes. It is better here than in Turner Valley.

Q Just this operation in East Calgary where you go into the Imperial Oil Company's yard and you rent some 200,000 barrels of storage from the Imperial Oil Company?

A Yes.

Q And that is oil which is either the Imperial Oils, you told us about this morning.

A Yes.

Q Or the British American, which you are moving under the contract Exhibit "29"?

A Yes.

Q Or Mr. Plotkins which is pretty small at least.

A Well---

Q Well it is fairly small.

A He is using a fair percentage of that storage right now, considering his volume throughout the year.

Q Considering the size of his plant?

A He is using practically 2800 barrels of it.

Q And you have 200,000?

A Yes.

Q Well I simply want to give you every opportunity to make whatever statement you wish because you are the man to make the statement, because as I say we have, Mr. Morrison has thrown it out now, and if you have anything more to say now, why you should have that storage in East Calgary, now what were you saying when I interrupted you, about the producers in the field?

A I merely say this, Mr. Frawley that if, there was going to be an enlarged storage that East Calgary is the place for it and not Turner Valley. Turner Valley can take care of the requirements with its present storage and if this complaint of the producers is carried into effect and it becomes a duty of the pipeline company to provide that storage,-I am saying that, there is room for an argument there,-but if it becomes their duty then the place for that storage is in East Calgary.

Q First of all, you have never accepted that duty because none of this oil which goes into this 200,000 barrel of oil storage is your oil.

MR. NOLAN: No, no. We are a pipeline company at the moment for the purposes of this discussion and the witness has said that one of the facilities which must be provided by the pipeline department or company is terminal storage. The witness was not arguing as to who owned or did not own the oil. It was what was being provided to the man who is having his oil transported over the pipeline.

MR. FRAWLEY: All right.

Q MR. FRAWLEY: Now we have three people now being serviced in the matter of transportation of crude oil?

A Yes.

Q We have the Imperial Oil Company and you told us you made delivery to the Imperial Oil Company at the gate, at the edge of its yard in East Calgary?

A Yes.

Q So after it passes that gate, I suggest to you it is the business of the Imperial Oil Company to store the oil which it purchases from you.

A Not the oil, then by the same token the British American should provide their storage and Mr. Plotkins should provide his storage.

A They seemed to think they were going to do that because they say here in so many words that they will.

A They never have done that.

Q Because perhaps you are big and kind-hearted enough to pay out the $3,000 to provide storage?

A No, it is not kind-hearted, Mr. Frawley. We are not a philanthropic institution or anything like that. We are in this business to give service and that is one of the services. If you investigate the pipeline business and the services which are provided by other pipeline companies, as I said before, who services more than one customer at one point---

Q Mr. McLeod, I do not want to press it too far, that is what they may be doing in the United States.

THE CHAIRMAN: I was going to suggest that perhaps Mr. Frawley's difficulty is, Mr. McLeod, that you

[illegible]

Mr. [illegible]

[illegible]

[illegible] oil?

Yes.

[illegible] and you told us you [illegible] Oil Company at [illegible] Company in [illegible]?

Yes.

[illegible] the [illegible] Oil Company to stop [illegible] you.

Not the [illegible] [illegible] have taken the Ba[illegible] [illegible] and [illegible] and [illegible]. Floating [illegible]

[illegible] going to do [illegible] that [illegible] [illegible] that.

[illegible] in big one independent [illegible] to pay [illegible] 50 to provide storage?

No, [illegible] Mr. Frawley. [illegible] a public [illegible] anything like that. [illegible] a service [illegible] one of the [illegible] you favorably [illegible] like business [illegible] services [illegible] by other [illegible] [illegible] before, [illegible] services [illegible] one point [illegible]

Mr. [illegible] I do not [illegible] to press it too [illegible], but is that [illegible] going in the [illegible].

Mr. [illegible] [illegible] [illegible] [illegible]

Mr. Frawley [illegible] Mr. [illegible], that [illegible]

have impressed upon him that you are merely the agent for the Imperial in gathering this oil?

A Yes.

Q And having gathered it as the Imperial's agent, he is querying why you should pay rent to your principal when you have your principal's goods to store.

A I would explain that, sir, by saying that my principal is the best customer that I have in this particular place and if my other customers are entitled to this service then why not is the Imperial Oil. In case he is my principal, should he not have it?

Q MR. FRAWLEY: Anyway what your good customer does, he builds 200,000 barrels of storage and you rent them from him and pay him $3,000 a month. It is his oil and you say that is part of the service you should render?

A It is not all his oil, Mr. Frawley, not all.

Q Oh no, there is the British American's oil and there is this little bit for Mr. Plotkins.

A There is Mr. Plotkins' oil.

Q I want to ask you about that, because that is a point---

Q MAJOR LIPSETT: Is there not another factor to this, Mr. McLeod, you collect this oil for nothing for the Imperial Oil in the Valley?

A Oh no, sir. I gather it and transmit it.

A You buy it for them?

A We buy it for them.

Q You buy it and then you make no charge for that and then you ship it up to Calgary.

A Yes.

Q Are you not putting the Imperial Oil in a very favourable position, if you pay them $3,000 or $2,000 or whatever thousand dollars a month back out of what they are paying you, as against what these other customers get in the way of benefit out of the pipeline?

A The other customers have the benefit of that storage indefinitely, sir, just the same as the Imperial.

Q Yes I know, they have but the Imperial Oil is given the benefit of that storage plus $3,000 a month.

A Well it cost them money to put the storage there.

Q I assume it did but they would have to have that storage anyway, would they not?

A They would if they were getting oil from Montana or somewhere, they would have to have this storage and very much more.

Q Very true, and they are getting a refund from you of $3,000 a month over and above the benefit that these other customers are getting, are they not?

A Having made the investment, if you put it that way they are.

Q I am only putting it to you to get your view on it.

A Yes.

Q I am not expressing any opinion of course.

Q MR. FRAWLEY: Now dealing at once with the Lion Company, that Company would prefer to have a totally different connection with your Company, putting their business on a totally different basis, would they not?

A The Lion Company?

Q The Lion Company, perhaps that is an involved question, but let me put the effect of it to you, the Lion Company applied to you to permit them to make a physical connection with your trunk line?

A Yes.

Q At a point immediately adjacent to their own refinery?

A Yes.

Q Which lies along the route of the trunk line of the Royalite Oil Company?

A Quite.

Q And if they had got their physical connection, had a service line fitted right into your trunk line?

A Yes.

Q And from there to their refinery, they would not have had any storage problem with you at all, it would have been their problem then?

A No, I do not suppose they would

Q Your Company refused to give them that connection.

A We did not think it was the time to make that connection.

Q Will you elaborate upon that by making any statement that you prefer to make, why you did not give the Lion Oil Company that physical connection?

A We considered that inasmuch as there was a 2" line running from our terminal in, at the Calgary refinery to the Lion Refinery through which all the Lion Refinery's requirements could be delivered at a lesser cost than it would have involved if the connection were made, with a small amount of oil

which they required, that until their business grew to a point that would warrant the connection it should not be granted and our estimates at that time are rather borne out by the fact that Mr. Plotkins has taken, or the Lion Refinery has taken through the pipeline, this 2" pipeline, 145 barrels daily average from the time they made the application. Now that hardly warrants a connection and a gauger to go each time to Mr. Plotkins' Refinery and make gauges.

Q I suppose Mr. Plotkins, if he had been foolish enough to insist upon what he wanted, he would have paid for the line, would he not, and paid for the gauger to go in there.

A Well there was no thought of that. You start making openings in the main trunk line for such deliveries as that, you might have ten or a dozen of them before you get back to Turner Valley with the result that there would be a serious interruption in your main deliveries to the customers who are waiting for you with thousands of barrels instead of tens of barrels.

Q I do not know what the prospect would have been, you say there might have been a dozen different people who would want the same thing.

A No, I say it is probable if you make openings in a main line for someone who wants 125 or 150 barrels a day, you might have any number of them between here and Turner Valley, between Calgary and Turner Valley.

Q I quite agree he is not the Imperial Oil and he is

not the British American, he is an independent refiner but he wants the crude oil delivered to him as cheaply as he can get it, and he would have to pay for that line.

A In answer to that suggestion, Mr. Frawley, I think he has secured delivery at prices right as cheaply as it could have been done that way, his bulk taken into consideration.

Q I do not know, now he is still protesting for that connection?

A I have not heard anything about if for a long time.

Q I have not heard of any change in his attitude but in any event you did not give it to him, that would have got rid of any question of that storage and running it from the Imperial Oil.

A For Mr. Plotkins?

Q Yes.

A But it would not have gotten rid of the fact that we would have had to send a gauger to Mr. Plotkins' refinery every time he wanted a delivery and someone would have had to patrol that line.

Q And it would have been very proper to charge him with all that?

A Yes, we did not consider that Mr. Plotkins suffered any hardship at all through not receiving that connection.

Q Now what actually happened, so that the Commission will know what the method is, what happens now to a producer's oil, we will take a shipment of a 1000 or 500 or whatever it is.

A I have all the receipts here by month from the wells.

Q Perhaps I did not make myself clear, will you tell us, what physically happens to Mr. Plotkins' oil, just give us the story of it from the well head through to his plant in Calgary.

A The Royalite transmit the allowable from the Sunburst well---

Q From the Sunburst well?

A Yes, which produces Mr. Plotkins, I understand has bargained for or purchased?

Q I want to follow it. It is put into the Royalite's gathering lines at the Sunburst well?

A Yes.

Q And from there to the trunk line?

A Yes.

Q And then what happens?

A It is taken from the Sunburst well to either No. 1 or No. 2 station and from No. 1 or No. 2 station to the central station in Turner Valley, from the central station in Turner Valley it is transmitted in the trunk line to Calgary.

Q Now where in Calgary?

A To our storage which we have rented in East Calgary, the East Calgary refinery.

Q In the Imperial Oil Company in East Calgary?

A That is right.

Q And then when it gets there what happens?

A When Mr. Plotkins calls for it it is transmitted through the 2" pipeline or by tank car or anyway that he may nominate---

Q Now so that I may understand, it goes first from your trunk line to your storage tank in East Calgary?

A That is right.

Q And it passes by Mr. Plotkins' refinery in so doing?

A Yes.

Q By a matter of how many feet or yards, by a matter of 1500 feet?

A Yes.

Q And then it goes to the storage tanks in East Calgary, of the Imperial Oil Company?

A Yes.

THE CHAIRMAN: Is the witness agreeing with that?

Q MR. FRAWLEY: Are you agreeing with that, Mr. McLeod?

A Yes.

Q Then Mr. Plotkins wants to take all of it we will say, all of it which has come in yesterday or the last few days and what happens then, what are the different ways that it gets or might get to his refinery?

A If he wants to ship to Saskatchewan he so nominates and we load cars on his order.

Q MR. NOLAN: We do not.

A The Imperial Oil load cars on his order. If he wants it delivered---

Q MR. FRAWLEY: To his own refinery?

A To his own refinery the Imperial delivers it to the 2" pipeline which runs from the Imperial Oil Refinery in East Calgary to the Lion Refinery.

Q The Imperial Oil has a 2" pipeline which runs from its refinery in East Calgary to the Lion Refinery?

A Yes.

Q Is that connected with the storage at the Royalite Oil Company's line?

A I do not know, I cannot answer that. I do not know

whether they transmit it from our storage to another storage when they give it to him.

Q It is your storage, you have storage which you rent and you pay $3,000 a month for it?

A Yes.

Q Now is this 2" line physically connected with any one of those storage tanks, you would know that?

A I would say that it would be reasonable to suppose that they would but I would not say definitely that they do.

Q Perhaps we can find that out during the noon adjournment. If it does not connect with these storage tanks of yours then it has to be taken to some other storage which does connect with the 2" line.

THE CHAIRMAN: You can find it out at noon if it does connect. We will adjourn now.

(THE INVESTIGATION WAS HERE ADJOURNED AND RESUMED AT 2. P.M.)

(Page 775 follows)

Examination of John Mcleod

resumed:

Q BY MR. FRAWLEY: Mr. Mcleod, did you ascertain if that two inch line which you say could and does serve Mr. Plotkins' refinery, whether that line runs into the Royalite Oil Company storage at East Calgary or not?

A The two inch line that connects with the pump house of the Imperial Oil Refinery in East Calgary is not connected to that line which is rented by the Royalite, but there is a suction line that is the intake and the pump runs from the storage tank which the Royalite rents from the Imperial to the pump house of Imperial Oil, and the two inch line which serves the Plotkins' Refinery is on the discharge end of that pump. Therefore, the oil that Mr. Plotkins receives from Imperial Oil through that two inch pipeline is taken from the tanks that are rented by the Royalite Oil Company from the Imperial Oil Limited.

Q So that the line, as I understand then that runs to or near his refinery is physically connected then with or by the intervention of some pump - which is physically connected with the Royalite Oil Company's storage?

A That is right, Mr.Frawley, it is taken direct from that storage to that pump and delivered by that pump to Mr. Plotkins' Refinery.

Q Do I understand this, Mr. Plotkins delivered you the production of a certain well for which he has made some purchasing arrangement?

A Yes.

Q And you run that into your storage in East Calgary?

A Yes.

Q

Q And when he gets oil from the two inch pipeline from the storage in East Calgary, does he get the very oil that has been delivered, or oil of similar gravity from the general storage stock of your Company?

A He gets what is generally called the pipeline run of oil. You understand, that we have one pipeline system which serves all these 60 wells, not 60 but we will say approximately 60, in Turner Valley, That oil from the time it leaves the producers' tanks until it reaches our storage in East Calgary loses its identity by being mixed with oil from 50 or 58 other wells.

Q So that strictly speaking you are not a common carrier of Mr. Plotkins' oil, are you?

A I think the word "common" is mis-used there. If you will allow me to correct you we will say we are not a distinctive carrier.

Q You are not a carrier of Mr. Plotkins' oil? You do not take Mr. Plotkins' oil in the Valley and deliver him that particular oil in his refinery, and out of your storage tanks in East Calgary?

A We make no distinctive collection or distinctive delivery.

Q That is true, but really all that is happening is that he is turning in or taking from the field storage of the Sunburst well a certain quantity of oil.

A Yes.

Q And a day or two, or some time later, you are delivering to Mr. Plotkins a composite of the pipeline run in Calgary?

A That is right, but I think that requires some explanation, Mr. Frawley.

Q I am not being critical, I just want to know what the facts are?

A The fact is there is a posted price for each gravity of oil, and for convenience we will say that Mr. Plotkins' oil at the Sunburst well is 45 gravity. That means a certain price, and Mr. Plotkins is credited with the amount of money that posted price demands. When we come to deliver to Mr. Plotkins we find we have only 44 gravity oil which is 2 cents per barrel cheaper, then Mr. Plotkins is charged with 44 gravity oil at that posted price. If it is 46 gravity oil, Mr. Plotkins is charged with the price of his oil plus 2 cents for the increase. Is that clear?

Q What was the gravity you started with a moment ago?

A 45 only as an example.

Q Supposing the Sunburst well was a gravity of 45, and that is all Mr. Plotkins wanted, 45. His operations he thought, called for a gravity of 45.

A Yes.

Q Well, when he makes use of your pipeline facilities he just cannot have any assurance that he is going to get the 45 gravity oil?

A No. No guarantee, he might get 46 or 43.

Q And it is a physical impossibility to do that you say?

A Yes, unless you had a pipeline running to Calgary for each well in Turner Valley.

Q So that I will extend that a little bit. I am told, and perhaps you understand the same, that a small refiner desires as high a gravity crude as he can get, does he?

A I am not a refining expert, but it is natural to suppose

that he would.

Q Because he has only a skimming operation which means he wants to get as much gasoline content in his one simple distillation operation as he can?

A In other words, he would like to pick the ripe fruit in season, leaving the rest to the others.

Q We will get to that by other stages, but that is the inevitable result. The small refiner in Saskatchewan or Alberta from his selfish point of view, desires to get the highest crude gravity?

A Yes, he does.

Q And if he goes to Turner Valley and finds such a well he has to make some other arrangements than your pipeline to enable him to get that particular well's gravity not mixed with anything else?

A If he wants the production from that well it would be necessary for him to make other arrangements. I could not guarantee him that.

Q Is there anything your Company can suggest at all which would enable that small refiner to get that particular kind of crude he wants? He has to take pipeline run when he deals with your Company? That is right?

A Yes, if he deals with our Company.

Q Now then, just following that up. You have contracts with many wells which requires the well Company to turn over all its production to your Company?

A All the allowable production.

Q Yes, subject to all valid statutes anyway, they must deliver their oil to you which means for practical purposes now, the allowable set by the Conservation Board?

A That is right.

Q And let us suppose that one of those wells was a well producing a rather high gravity oil?

A Yes.

Q And one of the small refiners of whom I have been speaking, approaches this particular well and seeks to obtain its production exclusively and without the inter-mixing of other gravities, what would be your attitude towards the well company in that instance?

A Are you speaking of requiring this high gravity oil for the rush period of the market or are you speaking of 365 days of the year?

Q I would take it both ways. I would first take it that he wants the production from that particular well on 365 days of the year, and he is faced with the fact that the well company, with whom he wants to do business, has contracted with your Cpmpany to make delivery to the pipeline. Is that a fair question? What would you say? Simply say "I am not interested in that? I have a contract and expect you to make delivery to the pipeline."

A I would expect the man to live up to his contract.

Q Then that answers it, because I mean if he wants it only for a part of the year, then much the more so you would say I am not going to give any concessions to you. That would be your answer.

A I would answer that I expect a man to live up to his contract, after having made it in good faith.

Q Yes, that seems reasonable.

Q MAJOR LIPSETT: You buy some oil say at

43 gravity and some at 45 down at the field?

A Yes.

Q Is that all mixed up in the pipeline, or can you bring 43 to Calgary and some 45?

A No sir, in the first place it is gathered. We have two main gathering stations, as will be explained to the Commission later, in the Southern part of Turner Valley. We have a main station in the central part of Turner Valley where our trunk line pump, that is the pumps that pump the oil from that point into the Calgary terminal. This oil is gathered in the South end into either one of these stations, what we call floating storage. It is measured at the producers' tank and is then pumped from that tank into either one of these stations into the floating storage. The reason for that, Sir, is to avoid having high pressure pumps at each well which would send that oil 10 or 12 or 14 miles to the main station, this can all be done and produced in those Number 1 and 2 gathering stations in the South end of the Valley by means of low pressure pumps. At those stations we have high pressure pumps which forces that oil on from that point to the main station at Central Turner Valley. It is all a matter of economics and it is all blended. You asked the question? It is all blended. I know of no better word.

Q BY MR. FRAWLEY: I want to go back for one question to this matter of your storage in East Calgary, and then I will leave it. I want to call your attention to Clause 9 of the agreement of the 18th of September, between British American Oil Company

and your Company, Exhibit "29", and I will substitute for the word "producer" the British American Oil Company, and the word "transporter" the Royalite Oil Company. "The British American Oil Company agrees to have sufficient available storage at its Calgary storage tanks for receiving for a period of ten days consecutively at the rate of six thousand (6000) barrels per day. Should the British American Oil Company at any time be unable to accept delivery in Calgary of its oil from the Royalite Oil Company, the Royalite Oil Company may refuse to accept further oil from the British American Oil Company in Turner Valley until such time as the British American Oil Company has adequate storage capacity at Calgary, to receive the oil ready for delivery. After any delivery of oil by the Royalite Oil Company has been commenced, it will not be blocked or stopped by the British American Oil Company until the Royalite Oil Company has completed said delivery of oil."

and the next clause 10 is the one that provides:

"The British American Oil Company agrees to pay the "Royalite Oil Company 22½ cents Canadian funds for "each barrel of oil delivered by the Royalite Oil "Company to the British American Oil Company storage "tanks in Calgary under the terms of this contract, "payment to be made within fifteen days after "Royalite Oil Company has rendered British American "Oil Company an invoice for said transportation services."

In view of the fact by this contract you can refuse to accept further oil from the British American in Turner

Valley until such time as the British American Oil has its own adequate storage at Calgary, I just ask you again, have you any further explanation or anything further to say about the fact that you have gone to the length of renting for $3000.00 a month storage in East Calgary to take care in part of the British American Oil.

A Any more than this, Mr. Frawley, that there has from time to time been discussions with the British American and that contract has been verbally altered to this extent, that we have agreed to supply the storage, which in that contract was implied, should be supplied by the British American.

Q Was there any change in the consideration, the monetary consideration to accrue to you in that contract?

A No more than the volume that the British American handled was more than was contemplated in that contract, and we considered the volume repaid us for the consideration that we have extended to them.

Q They agreed to pay you 22½ cents?

A They are quite agreeable to that.

Q And anything said about minimum or maximum quantities?

A No, there is an amount of oil mentioned in the contract that we are supposed to deliver for that price, but we exceeded that month by month, and month by month, and voluntarily reduced the price to 17 cents, due to volume entirely, subsequently reduced it to 15 cents, due again entirely to volume, and any consideration that we have extended to the British American and our variations from that contract are due entirely to the fact that the British American has given us more business

through the pipeline than we anticipated when that contract was made.

Q You spoke of a quantity. Just for the sake of the record, the agreement provided that you would agree to accept and transport up to 59,200 barrels every four weeks?

A Yes.

Q Or such further number of barrels as you could reasonably transport from time to time over the transportation requirements of it and related companies, that is yours an related companies?

A Yes. In explanation of that I might say, Mr. Frawley, that the capacity of the pipeline was considerably limited to what it is today; that I cannot give you the exact capacity of the line, but it possibly was not in excess of 11,000 barrels. While today the pipeline will carry 30,000 barrels to take care of peak loads when the market requires it.

Q So that all the concessions which you have pointed out that have been made to the British American since that contract was drawn, and which are of a verbal nature, have been made due entirely to the volume of business that the British American has placed in the hands of the Royalit Oil Company? Have you any minimum to move through the pipeline from anybody? You have only three people.

A Oh no. The maximum offered is the allowable set by the Conservation Board of each well, but no minimum.

Q But I thought in other places, I understand that the pipeline rate is based upon the minimum offered, so many barrels?

A I think in our purchase contract we set a minimum amount of barrels we will accept for shipment at one shipment.

Q How much?

A I have forgotten. We will produce a man who will tell you all about the contract.

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MR. FRAWLEY: I was going to the contracts now, but you prefer, Mr. Nolan, to have somebody else deal with them?

MR. NOLAN: Yes.

Q MR. FRAWLEY: I would like to go now to the physical line itself, and just briefly will you tell us when the line, just tell us something about the line.

MR. NOLAN: I wonder, Mr. Chairman, if you would agree with me to ask Mr. Coultis those questions. I have brought here today for Commission Counsel, the Superintendent of the pipeline system. He will be prepared to say when the lines were made, their dimensions, their life, their physical characteristics and go into details as to the gathering system, so if my friend does not mind, perhaps we can get that another way which might save time.

MR. FRAWLEY: Very well.

THE CHAIRMAN: I think so, Mr. Frawley.

MR. FRAWLEY: Now there are some questions, Mr. Nolan, which I will not pursue any further than I should.

THE CHAIRMAN: The cost is a factor in this also?

MR. NOLAN: Yes, we will produce the accountants who have extracted from the books of the Company the actual figures and the actual investments put into these lines throughout their lifetime. Those figures, of course, have been made available to the accountant for the Commission, but we feel it our duty to bring these before the Commission, but we would like to bring them forward by somebody who can speak accurately as to what the books disclose.

MR. FRAWley: All right. Will this gentleman be able to talk about the policy of the Company?

MR.NOLAN: No, not the policy.

Q MR. FRAWLEY: I want to have it clear on the record then,you have told me what your policy would be with respect to a particular well that had a particular gravity, which a small refiner might think best suited to his operations, and if that well had had a contract with you which required him to deliver his oil to the pipeline wherein it would lose its identity andbecome ultimately just pipeline run?

A Yes.

Q You say you would insist on delivery being made to your Company in strict accord with the terms of the contract, regardless of the inconvenience which must therefrom be visited upon the small refiner?

A Yes, and I might add to that, Mr. Frewley, that it is the privilege of every refiner, of every purchaser or prospective purchaser,of crude oil, to deal with the producer, before or after his well comes into production. It is his privilege to make any arrangement he may with each and every producer. No one has been coerced.

Q No, I would not think so, but to use the expression, it would depend upon whether the Royalite was there first, or the British American?

A Or they came to the Royalite.

Q They got together first?

A Yes.

Q You do realize, just to follow that up, so the Commission will see what is my point, and see the purpose of this examination, you appreciate that a large Company with

a refining operation which includes the operation of what is called cracking equipment, can handle pipeline run when a smaller refinery might find it difficult to handle pipeline run?

A I would suggest if he contemplated using Turner Valley crude in the future, that he correct his deficiencies, the deficiencies of his refinery.

Q And make it, buy the cracking coils, and put them in his plant?

A Correct the deficiencies of his refinery.

Q If that was the deficiency?

A I am not a refiner. I cannot tell you what the deficiencies are, but whatever they are they should be corrected if he intends to take Turner Valley crude.

Q He would have to make whatever changes are necessary?

Q THE CHAIRMAN: Or transport his oil by tank or truck.

A Yes.

Q MR. FRAWLEY: That is, of course, if the particular well to which he goes to get his high gravity crude has not been tied up to your Company or the British American?

MR. NOLAN: Has not entered into a contract with them.

MR. FRAWLEY: There is nothing sinister about this.

Q MR. FRAWLEY: Has no contract with your Company or the British American for its output?

A Yes.

Q Now you can tell me, Mr. McLeod, something, although Mr. Coultis will fill it in with more detail, you can tell us

whether or not the gathering lines and trunk, the three trunk lines, you have three trunk lines?

A We have one trunk line system. Mr. Coultis will go into that fully? I could answer it very briefly.

Q Just briefly?

A The first was a four inch line laid in 1925, and subsequently to that there was a branch laid to it and subsequently to that another branch, it is all one system.

Q Yes, you are speaking of the trunk line now?

A Yes.

Q And that trunk line is in quite good condition?

A I would prefer to have Mr. Coultis answer that. He knows more about the condition of that trunk line than I do, much more.

MR. NOLAN: There again I intend, and I do intend, and my friend has been advised as to this, to bring evidence before the Commission as to the existing state of the pipeline itself. Pains have been taken to examine it, not of course in its entirety, but by digging holes at proper intervals to examine what the effect has been of these chemicals contained in our soil in this country, upon the particular kind of iron or steel that the pipe is made of, and all that will be gone into in the evidence of people who are in a position to speak effectively about matters of that kind.

MR. FRAWLEY: Well now, Mr. Morrison asked me, will that same man speak as to the probable life of that line, that is what we are interested in? I am only asking these questions for Mr. Morrison's benefit. I want to know whether it is the really good line that I am told it is.

MR. NOLAN: Oh yes he will.

Q MR. FRAWLEY: Now, Mr. McLeod, have you had any applications.....

THE CHAIRMAN: Whether it is really good or really bad, you want to know surely how long it is going to last and perform the function which it now does?

MR. FRAWLEY: Yes. I could ask Mr. McLeod some general questions about that, couldn't I, we do not want to unduly labour points you are going to take up with other people.

THE CHAIRMAN: There is a purpose in duplication of course, but Mr. McLeod is apparently able to speak as to the policy of the Company, and in the line of known profits or losses, I mean things that these specialists are not going to speak about, that is the reason I suggest that you should get that out of Mr. McLeod.

MR. FRAWLEY: I will pursue the thing I was on, Mr. Chairman.

Q MR. FRAWLEY: Have you had any applications from any other persons or Companies, except the Lion Refining Company, for a physical connection with your pipeline for delivery to a refinery?

A No one, except people who are signing contracts for the sale of the oil.

MR. NOLAN: Mr. Frawley means at this end.

Q MR. FRAWLEY: At this end, have you had any similar applications to Mr. Plotkins', you know what he made?

A No, no, none whatever.

Q No application of that kind whatever?

A None whatever.

Q When was the last capital investment made in the trunk

line system?

A In the year 1938.

Q In 1938?

A Yes.

Q Was it commenced in 1938, or was it prior to that?

A That just depends, Mr. Frawley. We laid part of the six inch line in December, or in the latter part of 1937, we completed that six inch line in 1938.

Q Yes. You did the most of the construction of it in 1938?

A No, I would say it was about half and half.

Q Then let me get it again, you commenced the construction of the six inch line in what month of 1937?

A I cannot give you themonth. Mr. Coultis can give you that.

Q Now, in the late part of 1937, September or something.

MR. NOLAN: We will give you that.

Q MR. FRAWLEY: Was it in September, Mr. Coultis, that you commenced the construction of the six inch line?

MR. COULTIS: No, it was in October.

Q MR. FRAWLEY: Then the construction of the six inch line was commenced in October 1937, and then there was an interruption during the cold weather, was it?

A No, it was looped into the other lines, and then used.

Q And you completed it in 1938?

A Yes.

Q In what month?

MR. COULTIS: In the month of May.

Q MR. FRAWLEY: Now at the time that that investment in the six inch line was made. was the probable life of the Turner Valley field taken into consideration?

A I would not say that that was taken so much into consideration, that is the total life of the field, as the fact that the market requirements during 1938, due to the fact that practically all imports had ceased from across the Line, was the deciding factor in laying that six inch line.

Q Well, but surely the probable life of Turner Valley entered into it?

A Now.....

Q Do you mean this, Mr. McLeod, that there was just so much oil coming through that you had to take care of it?

A Yes.

Q Even although it would only last a month or two, or a couple of months?

A Of course there was nobody was as pessimistic as that, not as pessimistic as a couple of months, no.

Q Was there anybody who was as pessimistic as a couple of years?

A I do not recall distinctly, Mr. Frawley, that the life of Turner Valley was seriously considered.

Q In this instance, that is something.....

A At any rate I am free to say to you that I have never prophesied on the life of Turner Valley.

Q Neither up nor down?

A Neither way.

Q THE CHAIRMAN: Why?

A Because I am not competent to do so.

Q What are Mr. McLeod's qualifications in the petroleum world?

Q MR. FRAWLEY: Mr. McLeod, we have been asking other people that, will you begin at the beginning and tell

us what your life in the petroleum industry has been?

A Yes, I left school when I was 14 years old. I possibly walked through one or two schools, and I think I had the privilege of walking through a University once, but I have never sat at a desk studying since I was 14 years of age. I went to work as a roughneck, what is called a roughneck on a drilling rig.

Q Where was that?

A Petrolia, Ontario, at the age of 14, and I have been at it continuously since.

Q Take it by stages, so that we will have it on the record?

A Well I worked in the Ontario fields until 1919.

Q Now then, that is quite a long time, in that same Petrolia field?

A No, various Ontario fields, Petrolia, Bothwell.

Q All down in that same part of Ontario?

A Yes.

Q And by 1919 you had got considerably beyond the roughneck stage, what were you doing in 1919?

A I was managing a small company, a field superintendent at least of a small Company down there.

Q Was that an Imperial subsidiary?

A No, no, it had nothing to do with Imperial Oil.

Q It is not an Imperial Oil subsidiary, not even yet?

A Not even yet. It is owned by a private individual at the present time.

Q When did you first enter into the services of the Imperial Oil?

THE CHAIRMAN: Let us go on, that is up to 1919.

Q MR. FRAWLEY: Yes?

A And in 1920.....

Q Tell us from 1919 on?

A In 1920 I started working for the Imperial in the capacity of what is called today a tool-pusher, I was later with two or three drilling rigs.

Q Where was that?

A That was in Ontario.

Q Yes?

A I was transferred from Ontario to Western Canada.

Q When?

A Late in 1920.

Q Yes?

A And I remained here until 1923 when I was transferred to South America.

Q What did you do when you came to Western Canada?

A Well I continued to look after these drilling rigs for some time. I cannot give you the exact date, but the Royalite Oil Company was formed early in 1921, and I was its first field superintendent.

Q You came out then as part of the creation of the Royalite Oil Company?

A No, I came out to work for the North West Company, and I worked for them.....

Q In what field?

A I was looking after the drilling rig at Nanton, West of Nanton, and another one near the Prince's Ranch, what is now known as the Prince's Ranch.

Q THE CHAIRMAN: Is the North West Company an Imperial subsidiary?

A Yes.

Q MR. FRAWLEY: Then?

A I stayed with the Royalite until 1923 when I was transferred to the International Petroleum in South America.

Q And you went to South America?

A Yes, and I was there as Assistant Manager.

Q In what department was it?

A Assistant Manager of Production, drilling andproduction.

Q For the International Petroleum?

A For the International Petroleum.

Q You remained there how long?

A I came back here the latter part of 1925.

Q Yes?

A And was manager of the Dalhousie Oil Company for some time.

Q That wasfor production?

A That was drilling and production, yes, and them I think about 1928.....

Q THE CHAIRMAN: Is Dalhousie an Imperial subsidiary?

A It is a subsidiary of Royalite. I was, in 1928, I was made Manager of the Royalite.

Q MR. FRAWLEY: In 1928 Manager of the Royalite, and you have been manager ever since?

A Yes.

Q Well now.....

A But I have, as you may gather from this resume of my life, have had no academic training which permits me in any way to calculte the future reserves of Turner Valley.

Q THE CHAIRMAN: No, but you have learned

something about the oil fields?

A Yes.

Q And about the oil business?

A Something about it.

Q From a very practical side?

A Yes, I know something of profit, but very little of prophecies.

Q Since 1914 you have been engaged in that business?

A Much earlier than that, since I was 14, I said.

Q And would you as president of this corporation spend a million or one hundred dollars, if you did not think it would be justified by the return from the investment?

A I would seek the advice of my engineers before I did.

Q Yes, and so when you were concerned with the investment in pipelines so recently as you have told us of, were you not interested in how long it would earn money?

A Oh yes.

Q And did you seek that advice?

A Yes.

Q And got it?

A And got it.

Q MR. FRAWLEY: And what was it, Mr. McLeod?

A Well it was very uncertain. It came from different sources and very, very much, being in the pipeline business and the only pipeline that runs to that Valley, it was absolutely necessary, in order to maintain our position as a carrier of oil, to build this pipeline even although we took a loss, as we did before, on one particular connection of which I have a very distinct recollection.

Q The Chairman has just asked you, and I understood you

just told him, you would not invest a million or $100.00 of your Company's money unless you could see where it was coming back?

A Unless we thought we had a reasonable, we believed we had a reasonable chance of securing a return on that investment.

Q Yes. Now when you made this recent capital investment in the six inch pipeline?

A Yes.

Q You did see a way in which you could get it back from the carriage of oil?

A We certainly believed that we had a reasonable chance of getting it back.

Q Yes?

THE CHAIRMAN: And a proper return on your money as well?

A As well.

Q MR. FRAWLEY: And am I to understand that you saw such a heavy volume of traffic, that you could get it back in a very short space oc time?

A No, I didn't say that.

Q Well what do you say then, how soon did you see you getting your money back with a reasonable return on it?

A Oh, I would not say that that was taken seriously into consideration. We had, I really think, Mr. Frawley, that we are getting into the matter of accounting rather than policy, but let me say this in explanation, that we were in the pipeline business definitely.

Q Yes?

A We had a big investment.

Q Yes?

A And in order to maintain the business which we then enjoyed, and we hoped that we might continue to enjoy, we knew if there was a big market across the prairies in 1938, as there happened to be, then that pipeline facility would have to be increased.

Q Yes?

A Now it was not a serious expenditure when you take into consideration the investment which was previously involved it was not a serious condition.

Q How much was it roughly?

A I would not say more than 10%.

Q Well how much?

A 10% or 12% of the previous investment, the continuation of that six inch line.

Q I am speaking of this last investment only, about how much was that in hundreds of thousands of dollars?

A Oh, I do not know that. The books will reveal that. You can get all that from the accountant. I am talking for the purposes of comparison, and I say it was not a serious addition to the investment that the Royalite Oil Company already had made for pipeline facilities.

Q I know, but I am putting it to you, Mr. McLeod, that you were not careless about making it?

A No, not at all.

Q And you made it seriously?

A Yes.

Q And you made it as a business proposition?

A Yes.

Q Then I put it to you, did you see yourself getting

your investment back and a reasonable return on your money, in a very short space of time?

A I would not say in a very short space of time.

Q And I put it to you, and I am instructed by my accountant.....

A We were content to receive it in the normal length of time.

Q THE CHAIRMAN: Which would be what?

A Possibly five to ten years.

Q MR. FRAWLEY: Yes, that means, can I take the average then, seven and a half years, you expected to see it got back?

A That would be all right.

Q Well, I suggest to you, as instructed by my accountant, that you could really get it back, at your rate of earnings, in about one year?

A Well I am afraid your accountant has not had very much experience in the operation of a pipeline, that is the only comment I have to make.

Q No, but a lot in looking at books?

A Oh, and I will not argue that, we will leave that for the accountants.

THE CHAIRMAN: Yes, I think so.

Q MR. FRAWLEY: Tell me whether or not, do you accept the suggestion I made to you, that at your rate of earnings in 1938, following upon the completion of that line, you were about to get it back in one year's time if indeed you have not on the present rate of earnings already got it back?

A That will be revealed by the books.

Q And if that is anything like it, then that is perhaps

what was in the mind of your Company in deciding to make the investment?

A If that is so, we made a good prophecy, or a good guess.

Q Was that your prophecy?

A No.

Q Your prophecy was that you thought you could get it back in about seven or eight years? Seven and a half years?

A No, I didn't say that.

THE CHAIRMAN: From five to ten, he said.

WITNESS: You said seven and a half.

MR. FRAWLEY: Yes.

THE CHAIRMAN: Well this is something which Mr. McLeod is concerned with and something he knows about, you might pursue the inquiry as to just what advice he did get, five to ten years makes a difference you know.

MR. FRAWLEY: Yes, I asked him.....

THE CHAIRMAN: Or if it didn't matter whether it was five or ten years, why not?

MR. FRAWLEY: Yes.

Q MR. FRAWLEY: Now taking up the Chairman's suggestion.....

Q THE CHAIRMAN: So that we may understand, Mr. McLeod, what moved you to put this pipeline in at all, and every addition to it?

Q MR. FRAWLEY: Now, can you answer that question, we will take the last one and perhaps go back from then on. Now what precisely moved you to make the investment which you did in the six inch line in 1937 and 1938?

A Mr. Frawley, I had a long, very long discussion, with our enigineers and the very heads of the pipeline department regarding what should be done in early 1938 to enlarge the pipeline facilities of this Company. The first idea was that we should take up this Number 2 line, which is a four inch line, at least take up the part of it which is next to Turner Valley, the first fifteen miles, and loop it on to the end of this six inch line, which had been built in 1937, that would have given the pipeline division a capacity of some 17 or 18,000 barrels a day, and their calculations were based more on market requirements than on the life of the field, and they showed me that over a period of years the average market requirement across the prairie was 17,000 barrels a day, and they arrived at the conclusion that if this were done, namely the six inch, the fifteen miles of six inch line from Turner Valley to a point 15 miles East of there, looped to this, double four inch, plus the first four inch line, which was laid, would answer the market requirements, but I suggested if we secured one good crop, then the 17,000 barrel outrun would fall very short. As it turned out, I am not trying to say "I told you so" but as it turned out what we did was the correct thing to do because that pipeline was capable of meeting the peak demand of the prairie market throughout August and September of this year, and although it is capable of carrying 30,000 barrels a day, it is today carrying some 12,500 barrels, which is today the market requirement. Now I say in all seriousness, that the market requirements as calculated by our engineers and myself, had far more

to do in enlarging that pipeline than had the life of Turner Valley.

Q Now. Mr. McLeod, you see where that leads you, if you were only concerned with market requirements, be the market requirements as heavy as they may be, that is going to leave your pipeline on your hands and useless unless you have an oil field in Turner Valley.

A We had a pipeline left on our hands and useless in Turner Valley because we miscalculated back in 1931, Mr. Frawley, we miscalculated.

Q Yes, I just want to know what your position is, did you disregard, quite disregard the possibility of how long the supply at Turner Valley, that end of the supply, that end of your pipeline, might last, and regard yourself only with the sale of refined products throughout Western Canada, when you made the investment in the new six inch line?

A I do not think that any serious calculation was made as regarding the life of Turner Valley, for the simple reason that at the time the decision was made, to build an addition to that six inch line, wells were coming in very frequently, and they were large wells and the whole question was, "What is going to be done with this production", and there was a great hue and cry that 6000 barrels a day were going to Ontario, and this pipeline company, if it was going to maintain its position as a pipeline company, must then meet that competition, even although they took a loss.

Q THE CHAIRMAN: What Mr. Frawley wants to know, what position would you have to maintain if there was no oil to go through it?

MR. FRAWLEY: Yes.

THE CHAIRMAN: Didn't you think about that?

A Well Sir, I may answer that by repeating what I said a moment ago, that at the time it was decided to build this, that large wells were being completed regularly, and no one was seriously considering how long it would last or how far it would go. The big question was "What will we do with the oil?" and we were endeavouring to put ourselves in the position, so that we could handle anything which could be marketed.

Q MR. FRAWLEY: I see, so may I say that what you mean is that nobody was seriously considering, worrying about the possibility of a short life in Turner Valley?

A No, we were not at that time, there was plenty of oil in sight. You see it is something which transpires in other oil fields, oil men make more mistakes possibly than anybody else. I made mistakes in the pipeline business which cost money.

Q Following up what you said a moment ago, and what the Chairman asked you about, the market was increasing?

A Yes.

Q You could see a very heavy market?

A Yes.

Q And with a good crop, which would be more than normal, and in any event stretch out through Western Canada, which really are your big markets?

A Yes.

Q And that was a fairly definite constant thing?

A Yes.

Q But if the supply in Turner Valley suddenly failed, the market would still be there but your Company, the I. O.

would have to bring it from Montana?

A Yes.

Q Which would leave your pipeline rusting in Turner Valley, and no way of paying for it?

A The same as it did in 1931, when we built in the six inch loop to take care of the increasing market, the increasing production rather.

Q I gather you do not want to convey now to this Commission that you disregarded the question of life at all, but you just saw so much production in sight that you had no great worry about the possibility of a short life?

A That is right.

THE CHAIRMAN: What was the answer?

WITNESS: We were not worried about the field having a short life.

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John McLeod.

THE CHAIRMAN: No. Are you now?

A It does not look just as bright as it did a year ago due to the fact that many small wells have been brought in and not so many large ones. Those are only ups and downs of the oil business that you accustomed to in forty-five years' experience.

BY MR. FRAWLEY: Following out the Chairman's question, we have dealt - perhaps that is all we can say about the new six inch line. When did you build the four inch line, the Royalite four inch line?

A Mr. Coultis will tell you all about that.

Q I am not wanting details. I want to pursue the question.the Chairman was on a moment ago. In 1926?

A The first four inch pipeline? Yes, 1925.

Q And I suggest to you that the capital investment in that line was about $125,000.00. I just want to know what advice you had as to the length. As to how long it would be used and useful to you, this four inch line which you built in 1925.

A I was in South America.

Q You were not here at all?

A No, I was not.

Q So someone else took the responsibility of building the first four inch line?

A Yes.

Q And the second four inch line was a line you took over from the Regal Oil Company?

A Yes.

Q And when did you take that over? 1936 you took it over, Mr. Coultis said, and you began to operate it in 1937?

A Yes.

Q And how did you acquire that line?

A From the Alberta Pipeline which was a subsidiary of the Regal.

Q How did you acquire it?

A Through payment of a debt.

Q Which the Regal Oil Company owed the Imperial Oil?

A Yes.

Q Did you take it in at a certain figure?

A I think there was a set price on it. The books will reveal that.

Q Now, you have not got, I suppose, and I should have served notice on my friend, but you can bring the Annual Balance Sheet of the Royalite Oil Company for each of the years since its beginning, that might be the way. Well at the moment there is not anything more.

Q BY MR. NOLAN: Just one or two questions, Mr. McLeod, arising out of what my friend has said to you. You mentioned the mis-calculation in 1931. You did not enlarge on that?

A The what?

Q The mis-calculation in 1931?

A Yes.

Q As a matter of fact, Mr. McLeod, that line you are speaking of is a six inch line?

A Yes.

Q It was laid in 1929 was it not?

A 1929.

Q And for what purpose was it laid?

BY MR. FRAWLEY: What line is that?

A The six inch loop.

Q BY MR. NOLAN: How long was it do you remember?

A Something between 16 and 17 miles.

Q Prior to that there had been a four inch line in operation?

A That is right.

Q It was looped for a distance of about 15 miles?

A In order to carry the load over the hill.

Q In order to carry the load over the hill? Yes, and what happened to that six inch fifteen mile loop in 1932 or whatever it was?

A In 1929 there was a large drilling program on what is now called the gas cap of Turner Valley, fairly good wells were being found, production was increasing rapidly, and in late of that year it appeared as though the four inch line which is capable of carrying some 5500 or 6000 barrels a day, under high pressure, would not be sufficient to take care of the production of the field. This six inch loop was laid with the idea of augmenting the capacity of that four inch line but about the time the line was completed the production started to go the other way.

Q And ultimately what did you do?

A Well, after leaving it there for a number of years, I have forgotten how long, I would say three years, and the production in Turner Valley had fallen considerably, we decided to take up this 16 miles of line and use it for general use throughout the field.

Q Because it was not useful where it was?

A That is right.

Q Because as you say the production of the field had gone down to a point where it was no longer useful.

A Not useful.

Q And you did as you said to my friend, make a miscalculation?

A That is right.

Q In that regard?

A Yes.

Q Something was said, Mr. McLeod, about the purchase agreement of the producer. You know as the President of this Company, how those contracts came about. How are they negotiated? Just tell me that?

A Well in a good many instances, I would not say in every instance, but in the majority of cases, the producer himself comes to the Royalite office and asks if we are prepared to buy his oil and under what terms, and he is given a copy of this, what we call the standard contract.

Q Which is for the life of the well?

A Which is for the life of the well.

Q Is there any advantage to the producer to have such a contract fof the life of the well?

A Well he knows that his production is going to be sold or his proportion of the production that is allowable under the Conservation Board, or any other means , is going to be sold and he is going to be paid for it.

Q And that he will have a steady market for his product?

A That is right.

Q Throughout the life of his well?

A That is right.

THE CHAIRMAN: Are such contracts being put in?

MR. NOLAN: Yes, we are going to put in the form of contract that is THROUGH A MAN who knows a

good deal about them. Now you said something to my friend, Mr. Frawley, certain people have requirements for part of the year, and other people have requirements for 365 days of the year. Does that make a difference, and if so, what is the difference?

A It makes a vast difference. I would say to the producer of crude oil, whether the contract with a person or a company, who will take his production for 365 days of the year or for 65 days, which is about the extent of of the peak market demand.

Q Now, what has the season got to do with the market demand for oil, Mr. McLeod?

A Well, our peak seasons occur twice.

Q When?

A Once early in the year when seeding is on, and the other in the Fall when harvesting is on.

Q Then Spring and Fall are peaks?

A Yes.

Q Would it be fair then to say that Summer and Winter were low points?

A I would say that Summer is fair and Winter is low.

Q Summer is fair and Winter is low?

A Yes.

Q Yes, and you say that it is an advantage to the producer to know that his product is going to be marketed whether it be the high or the low point of the season?

A Yes.

Q Mr. McLeod, something was said to you about the man who wanted high gravity at a well. Higher than pipeline run. You will remember in your discussion with Mr. Frawley.

A Yes.

Q I suppose there is nothing to prevent a refiner making a contract with the producer who has a well of such a gravity to suit the refiner's requirements?

A None which I know.

Q Tell me this, what happens to the producers in the Turner Valley field if there were no pipeline? What do they do with their products?

A Well, prior to the time there was a pipeline, production of Turner Valley in the first place was hauled to Okotoks by horses. Subsequently by trucks.

Q Would it be possible to transport five and a half million barrels of oil a year by truck?

A Not impossible, Mr. Nolan, but very difficult, very difficult.

Q Do you know anything about the rates, the trucking rates, Mr. McLeod?

A I know something about it.

Q Perhaps we should explore that at some stage. It occurred to me, but perhaps you might assist us at the moment by saying what you do know.

A The only rate of which I have any knowledge is between Calgary and Turner Valley.

Q And what do I mean by truckage, tank trucks?

A Tank trucks.

Q That is a motor truck with a large tank body imposed upon a platform?

A That is right.

Q What is their capacity?

A Oh, they vary from 1500 gallons to 3500 gallons. I don't know if they have any 3500 gallons in this part

of the country, but they do have them

Q Do you know the rates, Mr. McLeod?

A The only rate of which I know anything is 30 cents a barrel, which is 6/7ths of a cent a gallon.

Q That is Turner Valley and Calgary?

A Between Calgary and Turner Valley.

Q I think we will find a little more about that in some other way.

BY MR. FRAWLEY: That is part of my program, and I have to make some investigations into that.

Q BY MR. NOLAN: I see in Exhibit "29", which is the contract with the British American Oil Company, and dated on the 18th day of September, 1926, that the price to be paid was 22½ cents.

A Yes.

Q By Clause 10?

A Yes.

Q Of that agreement. Now for the record the British American Oil Company is a large organization, Mr. Macleod?

A Yes sir.

Q It has its head office in the City of Toronto, I believe?

A Yes.

Q And it has technical people employed by it. You know that do you?

A Yes.

Q And it has a staff of engineers and it is in business in a big way in Canada?

A Yes.

Q Now they agreed, I suppose, to this price of 22½ cents in 1936?

John McLeod.

A Yes, they did.

Q They have made no objection to the reduction to 17 cents which was later made?

A No.

Q Have they complained of the present rate of 15 cents they are being charged?

A Not that I have ever heard.

Q In looking over this agreement, Mr. Chairman, I noticed in one of the early paragraphs in the recitals it says: "And whereas British American Oil Company has made "arrangements for using Imperial Oil Limited's storage "tanks located at the latter's Calgary refinery, "better described as, etc. etc." "and said tanks "hereinafter for the purposes of this agreement will "be called producers' storage tanks" and I think when we read the agreement itself we should read the words "producers storage tanks" in the light of that explanatory statement contained on the first page of the agreement. It is not something I can ask Mr. McLeod, It is something that I can draw to your attention when the moment arises to consider the agreement. Mr. McLeod, arising out of the examination of my friend, is there anything you would like to offer to the Commission in addition to what you have already said, which you think might be useful, or does that pretty well complete the picture so far as you are concerned.

A I have endeavoured to make myself clear in every particular, Mr. Nolan, I know of nothing that has been uncovered.

THE CHAIRMAN: What is Royalite's present drilling program?

A At the present time we have 4 drilling rigs.

Q Going?

A I think what the future is is very uncertain.

Q You are drilling four wells. Royalite is drilling four wells for itself?

A In some instances we have partners.

Q I was going to ask you how many for other people in which you have an interest.

A None for other people in which we have an interest. The C. & E. take a small interest in some of other wells drilled on their acreage, you will understand.

Q Quite, and that is your 1938-1939 program?

A 1939 program is very indefinite at the present time. It will be depend very largely upon what we find in our Northern well, called Royalite 35, and what develops from what is called the Home-Millarville No. 2. We have considerable acreage in that area, and I think our 1939 program cannot be determined until the results of those two wells are known.

Q You have a '38 program involving four wells drilling?

A Now drilling.

Q And your '39 program will depend in a measure upon the results obtained from Royalite 35.

A In the Northern end of Turner Valley.

Q And the Home-Millarville?

A Home-Millarville No. 2, which is two miles beyond that further.

Q And I suppose you have some hopes it may open up a much larger field than previously known?

A We do hope so.

Q Which would make your pipeline more useful, of course?

A Yes.

Q And it would be a field practically untapped, would it?

A Well, there has been practically no drilling in that two mile area. It would be practically virginl

Q So if that field should prove up there might be a very long life to this oil field?

A Yes, if there are not too many blank spots in between.

Q Quite so, and as I am appreciating your view, Mr. McLeod.

A I do not want to sound pessimistic, but I have seen barren spots with good oil wells on three sides of them.

Q Quite so, but I am quite sure you intend to be quite frank with this Commission, as you have been?

A Yes.

Q You would be rather astonished if it should transpire that the oil field was all gone? No more oil going through your pipeline in two years, would you?

A I would be astonished, I would be disappointed.

Q I fancy, filled with some astonishment too?

A I expect when two years come it would not matter very much to me.

Q Oh now, that is being pessimistic.

A No.

Q I take it, Mr. McLeod, and I am addressing you because of your great practical experience, and aside from all theorizing or anything, I gather that you, a sound hard-headed business man, would not be making or permitting any investment if you thought this field had only a life of two years, would you?

A That would be confined to pennies, I should say.

Q And equally, I suppose, you would feel that you could not tell whether it is going to last 20 or 30, or what areas will be opened up. That is in the field of

speculation?

A No, we have become accustomed to disappointments, and take them philosophically.

Q Who does not experience that? When will your 35 Royalite well likely be drilled?

A It is very hard to say, Sir. We are making the third serious attempt to reach the limestone in this well. We have two quite valuable strings of tools planted side by side, and drilling a hole as near to them as we possibly can and hope to reach the limestone.

Q How did such misadventure come on to you?

A Apparently caving in features and the tools slid in and fastened themselves. But barring any further incidents that well should be completed within the next six weeks.

Q And this Home-Millarville?

A I do not know very much about that. I understand they are resuming drilling and it should not be a long operation.

Q That is the one in which it was announced the finding of oil in the upper horizon?

A Yes sir, that is right, in the upper horizon.

Q Any attempt, any serious attempt made to get that oil to go down further or not? I understand it is possible....

A It will all come into one hole.

Q But it is not presently being extracted?

A Only in the way of a test. I understand they have made a test to ascertain whether it will produce.

Q Does that seem promising to you as a practical oil man?

A The reports are favourable.

Q How far away is your Royalite 35?

A I would say approximately a mile and three-quarters as the crow flies, apart.

Q Any other exploratory work in that part of the field going on other than those two?

A Not at present in the North end.

Q So am I right in thinking that is as you view it, the field may be very great or only what we know of now?

A I think as I have said before, Sir, it has possibilities of which at the present time we know nothing, and there are also very likely serious disappointments for a good many of us.

MAJOR LIPSETT: Mr. McLeod, we had the evidence that there is about 5500 barrels a day passing through the pipeline at present, is that correct?

A 5500?

Q Yes?

A 12,500, approximately. I cannot give you the exact figures, but I believe that is what the allowable calls for at the moment, 12,500.

Q Can you tell us what the maximum capacity of the pipelines at present would be if they were running to full capacity?

A The pipeline has been proven to be capable of handling 30,000 barrels in 24 hours.

THE CHAIRMAN: I would like to ask you this too, Mr. McLeod. It has been suggested here that the life of this field is in a measure dependent upon the efficiency of production in the field?

A Efficient production methods, yes sir. That is true.

Q And you subscribe to that view?

A No douht about that.

Q And since the life of the field is dependent upon the rate of withdrawal and the like in some measure, certainly what do you suggest is the proper protection to throw about the field to provide that efficiency which will add to the longevity of the field.

A Well, either we must drill enough wells so that the peak market requirements may be cared for by restricted flow rather than open flow. Do you understand that? Or we must produce the wells evenly for a twelve month period, storing the oil at a time like this when we cannot sell what the field might economically produce, until the time when we can sell it. Either that or we must produce the field at this economical rate and if it is called on for anything more than this, we must import the difference between what Turner Valley can economically produce and what the market requires.

Q Do I understand you then, over and above, you say, the governing factor should be the efficient operation of the field under market requirements?

A Absolutely. I do not think that any well should be ibjured for the sake of a temporary market splurge.

Q And you would expect this field to have a much longer life with some measure of control being exercised?

A I would expect a greater recovery.

Q Over a long period of time too, I suppose?

A Yes.

Q I have been wondering, and I have mentioned it while the witness is in the box, Mr. Frowley. We have had divers opinions as to the probable life of this field, but it seems to be common ground that efficiency in operation is an important factor regardless of the

respective prognostications they all seem to agree those who have spoken thus far, the term of efficiency in operation has a very direct bearing on the life of the field upon which you have led much evidence.

MR. FRAWLEY: Yes.

Q THE CHAIRMAN: Now what knowledge has this Commission as to what is the maximum withdrawal from time to time, or who is to have the control? Is it to be by private treaty or governmental agency, because the witness who places the highest estimate on the life of the field says, of course, it can be destroyed, if you want to destroy it in a few years, and it is gone. While we are fixing the pipeline rates, are we not concerned with what is to be done about that feature, as a very important factor in the useful life of this line.

MR. FRAWLEY: In other words, what steps are people, who perhaps have a right to take steps, taking and what further steps do they intend to take to secure that maximum efficiency of production?

THE CHAIRMAN: I think it should be known to those who have contrary notions as to what is efficient withdrawal, and given an opportunity to express their views.

MR. NOLAN: And what is efficient production?

MR. FRAWLEY: Quite so.

THE CHAIRMAN: Becuase it is not enough at the moment for two or three geologists to speak about the life of the field on an assumed condition, which may not in fact exist. There may be efficient production or there may be the most inefficient produc-

tion, and without something bearing on that factor, I suggest this Commission is not equipped to speak with fairness, either to thepipeline company or others concerned.

MR. FRAWLEY: I think those principles were agreed to by Dr. Boatright, and some other man, Mr. Davies, that they do require some evidence, and it is running in my mind that perhaps the Chairman of the Board might have something to say.

THE CHAIRMAN: Something for those concerned to think about. It is a factor.

MR. FRAWLEY: Yes, I quite agree.

THE CHAIRMAN: And there may be those who say this would be most inefficient, what we have proposed by your Conservation Board too. I do not think we can dodge .....

MR. FRAWLEY: I do not mean to end it with the Chairman of the Board. Mr. McLeod himself has a large number of ideas of how that field should be efficiently produced.

THE CHAIRMAN: And I am very much interested in Mr. McLeod's view as a practical oil man, since he was fourteen years of age.

MR. NOLAN: I am going to suggest that if that is to be pursued, we give Mr. McLeod a few moments of a break.

MR. FRAWLEY: Oh more. Perhaps he would like to come back with some considered ideas. I do not think it is a matter of a few moments.

THE CHAIRMAN: I just bring it to your notice now, you might both like to think about it.

MR. NOLAN: I do not think it can be made the subject of a memorandum. I think what the Chairman wants is Mr. McLeod's views as to the efficiency of the style of drilling in this field, and how it can be improved.

MR. FRAWLEY: And the production.

MR. NOLAN: Oh yes, and the production.

THE CHAIRMAN: You see all geologists and petroleum engineers appearing here, seem to make it common ground we will assume from now on this field will be properly handled. Now the pipeline company is in control of that handling, and should not be penalized because of inefficient operations made by people over whom it has no control, so it becomes a rather serious factor.

MR. FRAWLEY: Yes, I quite see that.

THE CHAIRMAN: Which you may wish to pursue with Mr. McLeod or anyone else, I do not know. I mention it now while Mr. McLeod is still with us.

MR. FRAWLEY: I think myself that there is another time and place for that, and it is very much present in my mind, and I would like to examine Mr. McLeod about that and go into it later.

MR. NOLAN: When you yourself have been instructed?

MR. FRAWLEY: Yes.

Q MR. FRAWLEY: Now there is a matter I would like to ask you about. My friend went into it with you, and that is about your mis-calculation about the four inch loop youlaid and after it had been in some time you took it up and used it in some place, and what you lost was the labour?

A And the depreciation on the equipment over that time.

Q The labour and the depreciation on the equipment?

A Yes.

Q Is it fair to put it to you that up to the time it was taken up, it was not a loss but merely a decrease in the profits?

A It was merely a what?

Q Just a lessening of your profits, it was not a loss.

A You cannot lessen something you have not had.

Q You do not mean you have not had any profits?

A No but I do mean we never had any profits out of that 6" line.

Q Another way of putting what I am saying is that that 6" line, that you got back all the investment you put into that 6" line out of profit, certainly if not up to the moment you took it up, certainly since.

A It served a purpose after it was taken up. Possibly we could have done much better if we had not had that line but we had it there, for example we may have laid a mile of 6" line and half a mile of 4" line, it would have done, but to save buying the 4" line we used the 6" because we had it there, so there were other considerations besides the labour and the depreciation.

Q All right, whatever they are, pile them up as high as you like.

A Yes.

Q I say the experience of your Company, during the years

that line was there until you took it up and since then, indicates that you have got out the returns, you have got back, to use a colloquial expression, not only that money that you spent there and you say lost---

A I beg your pardon Mr. Frawley?

Q And all the other money.

A I didn't say lost. I used the illustration merely to point out to the Commission that we made a miscalculation.

Q That is true?

A That is all I used it for, I was not talking about a loss or a profit or anything else.

Q That is right and that miscalculation, may I put it to you, has been more than made up by the good calculations which you have made?

A That will be all revealed on the Exhibit.

Q Now there was only one other matter, you rent 200,000 barrels of tankage at the Imperial Refinery?

A Yes.

Q Now is that all that is rented, to take care of your oil or what you bring through the pipeline?

A That is all the crude storage we have and that is heated storage which includes steam at the proper time.

Q I suppose you do not know whether the British American Company has any storage, rents any other storage from the Imperial Oil down there?

A No I do not.

Q Now just one other question, you told my learned friend that anybody who would go to a well, seaking

a special gravity of oil, would be pretty well forced to truck it away.

A If he wants that particular oil, I do not know how at the present time he could secure it unless he did truck it away.

Q I think we are all agreed on that, that is what my friend asked you and that is what you said.

A Yes.

Q So for the information of the Commission, because there are rather a large number of aspects to this pipeline, this transportation, a large number of aspects to this pipeline and this transportation to inquire into, the fact is that your Company could not take care of any such small and limited and isolated movement as that?

A No.

Q It could not possibly do it?

A It is physically impossible, Mr. Frawley. As I stated in the first place it would be necessary to have a separate line from each well to Calgary in order to give a man a definite assurance that he was going to secure the oil he bought if it came through the pipeline.

Q There are a lot of factors involved, I take it, it would be a simple thing to get it from his field storage into your trunk line, because it is going in there every day?

A Yes.

Q But you couldn't afford to pump that oil separately to Calgary as one operation?

A It is physically impossible, it is not a question

of affording.

Q Why?

A Because the line in the first place is filled with all kinds of oil and you would have to blow that line clear from the South end of Turner Valley, blow your trunk line clear of all other oil and then start to deliver this man's oil.

Q I want it quite clear, that is what you would have to do?

A Yes.

Q And the Commission can disregard any question of you being able to handle that thing separately, you couldn't do it?

A No.

Q That is why it has to be trucked at greater cost?

A Yes.

TO MR. NOLAN:

Q Mr. McLeod, my friend asked you about the 200,000 barrels storage, is it your opinion that that storage is necessary for the effective operation of this pipeline?

A So long as we have more than one customer it will be necessary.

Q THE CHAIRMAN: When were those tanks erected, the storage tanks of the Imperial?

A Sometime between 1923 and now, sir, but I cannot give you the date. The refinery was completed in 1923 and I do not know whether they are some of the original tanks or later, I cannot answer that, we can find that out.

THE CHAIRMAN: I suppose you can call witnesses from the Imperial?

MR. FRAWLEY: Yes, and from the British American, but to follow up your last answer to Mr. Nolan, assuming with me for the moment that Mr. Plotkins gets a connection into your line?

A Yes.

Q And assuming that the British American as they are now, they are engaged in the construction of a refinery of their own?

A Yes.

Q You will admit, after they get their own refinery completed, they will then have some sort of direct connection between your pipeline and their refinery?

A I cannot assume that, Mr. Frawley. They have made no arrangement with me to deliver oil to that refinery.

Q No, because they will not finish it for sometime but as a practical thing that is what they will do unless they use their own pipeline.

A Yes, that is quite possible.

Q And that would be just so much worse?

A I cannot admit anything like that.

Q But if they did not have their own pipeline, they would I presume want some direct connection, they would not want it sent into the Imperial Oil tankage and then over to their refinery?

A I do not know. The work about that, that has not been worked out at all.

Q You told the chairman, no, it was Mr. Nolan, that

as long as you had more than one customer then you would need that storage?

A If we had one customer and that customer were at that terminal---

Q And that was the Imperial Oil Company?

A It doesn't matter who it was, if we had only one customer and his operation was in that yard where the storage tanks are them we would not need any storage tanks but if we had more than one then we must have oil in these tanks to deliver to these customers when they call for it.

Q We are going to hear more about this storage but let us get as much from you as we can, If we eliminate Plotkins, and as you said this morning he didn't have very much and that was why you did not want to give him a connection, if we eliminate him and eliminate the British American, then you would not need that storage?

A There are too many "ifs" in there, Mr. Frawley. For instance we ship oil to Brandon to the Anglo-Canadian Company, we ship oil to different points in Saskatchewan to different companies on their order. Now if we are going to fill those orders there will have to be storage tanks provided to carry the oil so that it will be there when they demand it.

Q We will have to add something more about this.

A I realize my answers are not very satisfactory, Mr. Frawley, but I am doing the best I can.

Q I know and it is not that they are not satisfactory

to me, I just want to know why you need that storage and I want to exhaust your knowledge.

Q I have done the best I can to explain it.

Q If you did not have the British American and Mr. Plotkins at the moment you would not be paying this $3,000 to the Imperial?

THE CHAIRMAN: At the moment?

WITNESS: At the moment, awhile ago you were talking about the future, you say "at the moment" if we didn't have anybody but the Imperial Oil as our customer.

Q Yes.

A We would not need our storage.

Q Then it costs you $3,000 a month to serve the needs of Mr. Plotkins and the British American?

A Yes.

MR. FRAWLEY: That is all.

THE CHAIRMAN: Anything more?

MR. NOLAN: No my Lord.

MR. PLOTKINS: I would like to ask something.

MR. FRAWLEY: Mr. Plotkins asked me if he could have the privilege of questioning Mr. McLeod and I told him I would bring it to your attention. He is here representing himself. He has been in attendance and he is also of course---

THE CHAIRMAN: Has he communiated to you as Commission Counsel what he wishes to ask?

MR. FRAWLEY: No he has not.

THE CHAIRMAN: He had better interview you and then you can tell us whether the cross-examination by Mr. Plotkins or any other person is relevant

to this inquiry. Counsel has been provided and if he has some reason for asking questions through someone else instead of through Commission Counsel we will certainly allow him to do so but first we will know whether they are relevant or not through his communicating them to you. You might step aside for the moment, Mr. McLeod, if you will.

MR. FRAWLEY: I really didn't catch what you said, you said something about a five minute's recess.

THE CHAIRMAN: I didn't but I will say so.

(THE INVESTIGATION IS HERE ADJOURNED FOR FIVE MINUTES).

MR. FRAWLEY: I have spoken, Mr. Chairman, to Mr. Plotkins and went so far as to make some notes of the kind of things he wants to question Mr. McLeod about. He has of course altered his personal relations but his questions are related to the pipeline connection and he will be a witness, he will make his own statements but he protested that he could not, he thinks, leave it all to the making of his own statement and he desires to preface that by the obtaining of some answers from Mr. McLeod, I am quite willing.

THE CHAIRMAN: He has satisfied you, Mr. Frawley, of the relevancy of the matter that this Commission is instructed to inquire into?

MR. FRAWLEY: Yes.

THE CHAIRMAN; If he has.

MR. FRAWLEY: He purposes to direct his mind to that part of the Commission's inquiry which requires it to investigate "the cost of gathering, handling and transporting in Alberta of crude

petroleum and of refined petroleum products and without limiting the generality of the foregoing, the rate charged for the gathering, handling and transporting of crude petroleum by pipeline or otherwise from Turner Valley to Calgary in the said Province and what the fair and equitable rate for such gathering, handling and transporting should be; the adequacy and efficiency of present pipeline facilities, and whether existing pipeline facilities result in or tend toward an unwarranted control of the price of either crude petroleum or refined petroleum products". I quite agree that I should be asking the question, certainly, unless there is some good reason to the contrary. I will begin with Mr. McLeod---

THE CHAIRMAN: The Commission has no objection to Mr. Plotkins asking questions. We merely propose dealing with him as with any other person who comes here, by asking them first to satisfy Counsel appointed for the purpose of seeing that the inquiry they choose to make by way of cross-examination is relevant to the subject matter of the work of this Commission.

MR. FRAWLEY: As to that, in my judgment it is germane to the inquiry.

THE CHAIRMAN: All right, if you will come back Mr. McLeod.

MR. NOLAN: I wonder if I might be permitted to clear up one matter which has been brought to my attention by Mr. McLeod within the last few

moments, that in answer to my learned friend he said that if there was only one customer there would be no necessity for storage at the terminal of this pipeline and that is the way the record stands. Now I know that the Commission will allow Mr. Mc Leod to explain that a little more fully.

THE CHAIRMAN: Yes.

(Go to page 830)

MR. JOHN McLEOD was here recalled to the witness stand.

WITNESS: Just this, that if we had no storage at Turner Valley, the refinery superintendent could very well say to the pipeline tonight "I want 4000 barrels of oil tomorrow, and I do not want 4005 barrels or 3995 barrels", and the followng day he could ask for 6000 barrels, and the next day he might well say "I don't need any", but with thepipeline having storage at this end of the line, that oil is available to the refiner whenever he requires it. Now the ordinary refinery man would run his storage tanks very low if he were sure that he would get the supply each day as he required it, and in so doing you might stop not only his operation but the Regina operation or the Moose Jaw operation or some other operation of Imperial Oil. We are talking about just one customer now, for the simple reason that the pipeline might fail, there might be one of those breaks which I recited to the Commission a short time ago, which tied the pipeline up for a short time, and I wish to reiterate that I think it is essential that storage be kept at this end of the line for the convenience of the customers of the pipeline company.

Q TO MR. NOLAN: And Mr. McLeod, have you in your experience any knowledge of the adequacy of that storage during the peak of any particular season?

A Well at one time during the last week we had as much 180,000 barrels in storage while the market was calling for something like 28,000 barrels per day.

Q Which would give you six or seven days' supply only?

A Approximately six days.

Q THE CHAIRMAN: Have you the contract with the Imperial with regard to their building storage tanks?

A With regard to the rental?

Q For you to store in, for your Company to store in, I mean is there any contractual relationship about it, is it evidenced by documents?

A Nothing only the exchange of letters.

Q Exchange of letters?

A Yes, in which we agreed to pay $35,000.00 a year.

Q Was there an agreement, I mean, for the erection of storage tanks?

A Oh no sir, those storage tanks were erected prior to the time when the pipeline Company thought it necessary to have storage at this end.

Q The tanks then were erected?

A By the Imperial.

Q For its own purposes?

A At the time when it imported large quantities of crude from Montana, and I might add to that, that my understanding is that the crude was bought at advantageous times and stored, when the price was right they bought large quantities.

Q MAJOR LIPSETT: Was the position this, Mr. McLeod, that when the Imperial were bringing the oil in from Montana they had their own storage tanks?

A Yes.

Q So that they had provided the capital to store their oil?

A Yes.

Q Now, when you are piping the oil from Turner Valley you are relieving the Imperial of that liability for storing their own oil, and you are storing it free for them?

A When they were receiving their oil from Montana they were receiving it in tank cars, and the Railway Company certainly would not furnish storage for anyone.

Q And consequently the Imperial provided their own storage at their own expense?

A Yes.

Q And now, in effect the Royalite Oil Company is providing that storage for them, at the Royalite Oil Company's expense?

A For a certain amount of oil.

Q For whatever their share is?

A Yes.

MR. FRAWLEY: I do not have to ask anything else, that is what I was going to ask about, but let me call your attention now to this clause in the British American contract, Clause 3. "The transporter", and if you will allow me to put in the Company's name again,

.. "The Royalite shall not be obliged to accept "delivery of any oil from the respective properties "hereinbefore referred to at intervals of less "than three days or in lots of less than 3000 "barrels each, whichever shall first occur. The "British American agrees to notify the transporter "24 hours in advance of the time at which the "producer wishes to tender the transporter, the "Royalite, a shipment of oil".

so that, as Mr. Nolan says, with the excellent advice

which the British American had at its disposal, they made that provision in their contract, you have no similar provision with the Imperial Oil?

A That has to do with accepting oil at the producers' tank, Mr. Frawley.

Q Well it has to do with the relations between the British American and your Company.

A Regarding the gathering and delivery of oil.

Q It will be for the Commission to read it. I need not read it again. We may have some submission to make as to what that means.

THE CHAIRMAN: The witness does say, however, that the business relationship with respect to the storage and the transmitting of oil, as between the Imperial and the Royalite, is the subject of correspondence.

MR. FRAWLEY: And Mr. Nolan will be good enough to bring that with him.

THE CHAIRMAN: Yes.

Q MR. FRAWLEY: Are we to understand that the 15 cent rate, Mr. McLeod, which you charge the Imperial, is purely to gather, to transport and to put into their, into, well now just what is it for, to gather it and handle it or anything else but gathering it and transporting it?

A And storing it against the day they will need it.

Q And storing it?

A Yes.

Q Then is there something in the 15 cents then for storage?

A No.

Q Then it is just that you gather in and transport it for

15 cents?

A Yes.

Q You store it free of charge and pay them $3000.00 a month rent?

A Yes.

MR. FRAWLEY: Now, is Mr. Coultis going to go on now?

THE CHAIRMAN: There are some questions by Mr. Plotkins.

MR. FRAWLEY: Mr. Plotkins.

THE CHAIRMAN: Mr. Plotkins, can you tell the Commission roughly how long you expect to be?

MR. PLOTKINS: Oh, it will be about half an hour.

THE CHAIRMAN: Well I think we will not enter upon that tonight. We will start in the morning with Mr. Plotkins.

(The Inquiry was here adjourned, and was resumed at 10.30 A.M. Tuesday, December 20th, 1938).

The Province of Alberta

IN THE MATTER OF THE PUBLIC INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the 12th day of October, A.D. 1938, to inquire into matters connected with Petroleum and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta DECEMBER 20th, 1938

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Witnesses:

E X H I B I T S

. . . . . .

Tuesday December 20th, 1938.
10:30 A.M. SESSION

MR. JOHN McLEOD, having been recalled as a witness:

TO MR. FRAWLEY:

Q Mr. McLeod, I would like to ask you a couple of questions before Mr. Plotkins does, still dealing with the question of the storage which you have in the Imperial yard in East Calgary, you said yesterday that you made use of the storage as I understood it in connection with some shipments to Anglo-Canadian Refinery at Brandon?

A Yes.

Q You mentioned it in connection with that storage?

A Yes.

Q Well now, Mr. McLeod, the fact is that was a transaction with the Imperial Oil, was it not?

A Oh yes, they make their arrangements for those shipments as they desire them through the Imperial Oil. At the beginning they made the requisitions to us and we transmitted those requisitions to the refinery. We found that that caused at least one day's delay and the Anglo-Canadian were anxious to have those shipments made promptly and by verbal arrangement we agreed that they should give their requisitions direct to the Imperial Oil Refinery.

Q Yes, but it was essentially a transaction between the Imperial Oil Limited and Anglo-Canadian?

A Essentially.

Q What I mean is, the Anglo-Canadian paid the Imperial for the oil which was sent down to Brandon?

A Oh yes.

Q So that it was Imperial Oil's oil that they bought?

A It was oil which had been placed in the tank for the use of Imperial Oil and the Imperial Oil Company's customers.

Q Yes, well for the use of the Imperial Oil Company so far as Royalite was concerned, I thought we had that yesterday, you just had one big customer, the Imperial Oil Company?

A Well the first arrangement was just as I have recited.

Q The first arrangement with whom?

A With the Anglo-Canadian and all others including the Gas and Oil Products, they sent their requisition to the Royalite and the Royalite transmitted them by mail to the Imperial Oil Refinery in East Calgary and as I say that caused one day's delay and these people being anxious to have the shipments made promptly, it was agreed by arrangement between the different parties, the Imperial Oil Refineries and the party, that each and everyone of them send their requisitions direct to the Imperial Oil Refineries at East Calgary.

Q It was decided that they should deal direct with the Imperial Oil?

A Yes.

Q Regardless of the Royalite Oil Company?

A Yes.

Q That is a very proper arrangement because as I understand you yesterday the Royalite has no oil to sell, the Imperial sells the oil to those that

want it.

A That is it, after it is once placed in that storage.

Q All that that does is further mystify me, for the necessity for the storage in East Calgary.

A No more than this, Mr. Frawley, it must never be lost sight of that the Anglo-Canadian and the British American are good customers of this pipeline company and as I have repeated time and again since yesterday morning, we consider that it is the duty of the pipeline company to furnish storage for these people who provide us with business.

Q Well I do not want to be labouring the storage matter too much but it is important---

A Mr. Frawley, all you have to do is to look up what other pipeline companies do.

Q No, I think we will have to just try and see whether or not, in connection with the operation of this pipeline company, it is a fit and proper charge.

A Yes, but like the profession of which you are an honoured member, we have always sought precedence.

Q Yes I know.

A Yes, you have to prove your case or disprove the other fellows, don't you?

Q Yes.

A Surely we have that right too.

Q You said yesterday if you only had one customer you would not need this storage, if you only had the Imperial Oil.

A I cleared that up very definitely yesterday after-

noon, Mr. Frawley, by saying it would be a great inconvenience to the pipeline company or the pipeline's operations if they had no storage in Calgary because if they had just one customer they would have to deliver to him daily his requirements on order.

Q Yes.

A On his orders. It might be a great inconvenience to the pipeline company.

Q Now that is the answer to that?

A That is the answer to that.

Q Now might I suggest a further answer to that, is the Refinery should keep plenty and adequate storage for his refinery stock, not for a day's run but perhaps for a week or perhaps for two or three weeks, depending on his needs, I suggest that is his responsibility for it.

A You are suggesting of course that the Imperial Oil Company in East Calgary do that and no other Company. The Imperial Oil does exactly that but the other companies have their oil on demand.

Q What other companies?

A That may ask for oil.

Q They do not buy oil from you?

A They have it transported by us, until the B. A. build a refinery here and they are building one, and they adopt the principal which I have just enunciated, calling for their daily requirements to be transported to that refinery rather than carrying a large amount of crude, can you see no inconvenience to the pipeline company for that?

Q But when they did make a contract with you they

went into these things pretty clearly it does seem to me and they provided, you yourself protected yourself by saying you should not be obliged to accept delivery of any oil from the respective properties hereinbefore referred to at intervals of less t an three days or in lots of less than 3000 barrels each, whichever shall first occur.

A That is at the producer's tank, not at this end.

Q The British American agrees to notify the Royalite twenty-four hours in advance of the time at which the British American wishes to tender the Royalite a shipment of oil.

A Mr. Frawley, that refers entirely to taking shipments of oil from the producer's tank. There is no provision made by the British American where that oil will go or where it will be delivered to.

Q Then the further clause that I must call your attention to is Clause "9",

> "The British American agrees to have sufficient available storage at its Calgary storage tank for receiving for a period of ten days consecutively at the rate of 6,000 barrels per day".

A That was before they had the refinery in Calgary, or anticipated building one in Calgary.

Q I know but I am only saying that this was the agreement they made on the 18th of September 1936?

A Yes.

Q And they certainly provided there that they should have some responsibility to supply, to maintain

adequate storage at the refinery end of their operations.

A That is true.

Q That is true is it not, Mr. McLeod?

A Yes, that is true.

Q Now they have, that arrangement still continues, the British American are still having their refining done by the Imperial on a customs basis?

A Yes.

Q They have not yet built their refinery?

A They have not completed it.

Q And what they may do is something we know nothing about, as you said yesterday.

A I didn't say that.

Q Didn't you about say that?

A I said they had their right if they wished to build a pipeline of their own.

And if they build a pipeline of their own then of course their storage and their transportation problems will not be yours?

A No.

Q And if they ask you to give them a connection, as Mr. Plotkins did, to their refinery, that would be something which would require consideration?

A Yes, due to the volume of busines we expect them to do.

Q And then that would eliminate any question of storage in Calgary to suit their convenience?

A That would depend entirely upon the kind of storage they had in their East Calgary refinery.

Q That is true but if they built the refinery and

had adequate storage, then you would not be troubled with any storage problem?

A Mr. Frawley, you put so many "if" in your questions that it is impossible for me to say what might happen. You give us a stated case of what the British American is going to do.

Q What might happen then in case that the British American operations, what might happen which would require you to give storage for them?

A If they did not have adequate storage of their own.

Q You feel if they failed to provide adequate storage at their own refinery, you should provide storage for them without charge?

A I would be prepared to make an agreement to the British American if they didn't provide adequate storage, that the oil would be available for them when they want it.

Q That you would not charge them for any storage, when you would have to keep it for them.

A Beyond the regular pipeline rate.

Q And would not charge them for any storage?

A I would not agree with them at all, because I think the storage facilities are part of the pipeline system and they are therefore chargeable against the pipeline rate.

Q I am just wanting to know what you would do without charge.

A I do not say I would do it without charge, you are trying to do this.

Q No, I am not trying to do anything, I am not try-

ing to put words into your mouth.

A I hope you are not.

Q I want to know what you would do as to storage for the British American.

A That would be a matter for future agreement.

Q But as you presently see it, and maintaining this charge which you are now making, that you are now paying, of $3,000.

A You are exaggerating that, let us have it exact, $35,000.00 a year.

Q $2900 and something, is it a month?

A Yes.

Q How much storage has the Lion, your third customer, had over say the last six months, to what extent have you been required to supply storage for your third customer over say the last six months in these tanks at East Calgary?

A I have not that. It has been for very short periods, for very short periods.

Q Do you know this, just one more question, do you know precisely what happens to the British American oil when it arrives, it goes into your storage tanks, does it?

A Yes.

Q And do you know the arrangement between the Imperial, the refining arrangement between the British American and the Imperial?

A No.

Q As to when that is drawn off the tanks?

A No.

Q Or whether it maintains its identity as British

American oil when it goes through the Imperial?

A I do not know.

Q You do not know whether it is a question of selling crude to the Imperial or buying refined products?

A No I do not know.

Q If it were that then of course all of the oil is virtually the Imperials and they simply make an adjustment in the delivery of refined products to the British American.

A I cannot answer your question, Mr. Frawley.

MR. FRAWLEY: All right.

Q MAJOR LIPSETT: Have you any idea as to the cost of those storage tanks in East Calgary?

A No I have not but it can be ascertained for you.

Q You never considered whether the question of $3500 a year was a proper charge?

A Well it figures out on the basis of 17¢ per barrel per annum, which is less than a cent and a half per month.

Q What I was thinking of was the question of whether it was really considered on a commercial basis, and whether it would be cheaper for you to put up a storage tank, than to pay $35.000 a year.

A If we were positively sure that the life of the field was going to be extended over a period of years it possibly would be cheaper to build storage of our own.

Q Anyway you have not considered that?

A Yes, we have considered it but for the present time

we do not care to make any larger initial investments than were absolutely necessary to take care of market requirements. These tanks were available and we rented them.

TO MR. PLOTKINS:

Q My Lord, the purpose of the questions I will direct to Mr. McLeod is to bring out matters connected with pipeline operations, rates and practices as they affect the other branches of the industry, particularly production, refining and marketing. They will be of a general nature with a view to correlating and placing in proper perspective the part that the Royalite Oil pipeline plays in the general competitive scheme of things.

THE CHAIRMAN: All right, go ahead.

MR. PLOTKINS: Beg Pardon?

THE CHAIRMAN: Proceed with your question.

MR. PLOTKINS: As part of the integrated business of Imperial Oil in producing, transporting, refining and marketing the products of petroleum crude.

MR. NOLAN: My Lord, it does seem to me Plotkins has been afforded the privilege of asking Mr. McLeod some questions. I have no doubt at a later date he will be afforded the privilege of making a statement to the Commission and perhaps now he should confine himself to these questions which he thinks are pertinent to this inquiry.

MR. PLOTKINS: These questions which I am

supposed to ask are for the purpose of making my statement intelligent to the Commission. I could make all the statements in the country from now until Dooms Day and not convince the Commission unless I showed some of the things that exist between the Royalite and the industry in general.

THE CHAIRMAN: You have satisfied counsel for the Commission that the questions you propose to put are relevant to the issues with which we are concerned and therefore proceed with your questioning.

MR. PLOTKINS: My aim is to bring out circumstances.

THE CHAIRMAN: Mr. Plotkins, I said to proceed with your questioning.

Q MR. PLOTKINS: Mr. McLeod, do you agree that one of the purposes and functions of the Royalite Oil Company as subsidiary of Imperial Oil is to produce crude oil or naphtha or gas for use by Imperial Oil in their refining and marketing operations at the lowest possible ultimate cost of production?

A Will you repeat that question, Mr. Plotkins, if you would come up here a little closer, I do not hear you very well.

MR. NOLAN: Come over here.

Q MR. PLOTKINS: Do you agree that one of the purposes and functions of the Royalite Oil Company as subsidiary of Imperial Oil is to produce crude oil or naphtha or gas for use by Imperial Oil in their refining and marketing operations at

the lowest possible ultimate cost of production?

A No, I do not agree with that, Mr. Plotkins.

Q That is one of the purposes?

A No, as manager of the Royalite I aim to get the last possible cent that the Imperial Oil Company will pay for that production.

Q Well that is true.

A Yes.

Q But being that the Royalite owns 70%, I mean the Imperial owns 70% of the stock, any benefit which you derive for Royalite indirectly will benefit Imperial Oil.

A Yes.

Q That is if you get $1.10 or $1.50 a barrel for any product and that produces a profit, Imperial Oil by their ownership of 70% of the stock will benefit.

A If the Royalite pays a dividend they will. If they do not pay a dividend then the Imperial or any other shareholder will not benefit.

Q Is that a fact?

A What.

Q Is that your experience with subsidiaries of your own Company, that you do not benefit to the extent of the assets which you accumulate.

A You benefit on paper but you do not benefit by improving your bank account.

Q You do not benefit by the use of those assets?

A I do not know what you mean by that. The only assets of which I take cognizance are those that

produce profit.

Q Or that can be used in your business to produce profit.

A Yes.

Q So that if Royalite as a subsidiary that controls a large acreage, of probable productive acreage, and if you want to make a deal for some drilling?

A Yes.

Q Do you mean to say you would not take advantage of the fact that you own some acreage, through one of your subsidiaries, in order to make a deal that would be of advantage to Royalite?

A I would take advantage of any deal which was fair and equitable.

Q Naturally they would be fair and equitable, I am not suggesting any bad methods in using the assets of the Subsidiary.

A No.

Q That is the purpose of setting up a subsidiary.

A Yes.

Q So that coming back to that question now, let us analyze Royalite's function, it is to produce crude or gas or naphtha.

A Yes.

Q At the greatest profit to itself, or in other words at the least possible cost of production and at the highest selling price.

A That is our aim.

Q Yes.

A That is our aim.

Q To accomplish this Royalite acquires interest in perspective or potential oil land on the best possible terms with a view of immediate development or otherwise and acquires, by advancing money or other methods, royalties or other interests in potential independent, completed or uncompleted, oil or gas wells, is that a fact?

A Yes, we have done that.

Q That is part of your business?

A Yes.

THE CHAIRMAN: Mr. Plotkins, when you are putting these questions do it slowly, will you, so that the witness will understand.

MR. PLOTKINS: Thank you.

Q And this is for the purpose of obtaining the exclusive use or control of the crude or gas production at the lowest possible cost.

A I do not know that it is done for the purpose of obtaining the exclusive control.

Q Well you do not make any contracts with anyone, to buy oil or gas, except if they sell you the entire output for the life of the well, that is my understanding.

A We have made contracts with different people to buy the oil, that is that they are permitted by law or regulation to produce, but not all the oil that they can produce.

Q No, what I mean by that is, there are exceptions, but there are very few exceptions.

A No, I think you will find, I am not familiar with the contracts which we have, I am not familiar with

the details of the contracts but I think you will find that in each and every case there is a clause in there that we will only purchase what the producer is permitted by regulation to produce.

Q That is correct, Mr. McLeod, but what I mean is this---

A You said, Mr. Plotkins, "all the production". Now that is very misleading and I am giving you this for your benefit.

Q I will qualify that and say under your agreement with a different producer you say you will take all the production as prorated either by your Company or at the present time by the Board, that is correct?

A At the present time.

Q The effect of that is---

A I didn't say prorated by our Company.

Q That is in fact what happens?

A Yes, and that we would agree to prorate our wells in the same manner as everyone else who was connected.

MR. PLOTKINS: That is true.

MR. FRAWLEY: Mr. Plotkins, let me interrupt. Mr. Nolan has been good enough to bring a copy of the contract and it does seem futile for Mr. McLeod and Mr. Plotkins to be differing about what the contract says. If Mr. McLeod will just acknowledge this as the form of contract, it might go in and then the Commission will have it to look at.

THE WITNESS: I had hoped, Mr. Frawley, to get away from the details of these contracts.

MR. FRAWLEY: I am not asking to go into the details.

THE CHAIRMAN: Is that your standard form of contract?

MR. NOLAN: Yes, and all Mr. Frawley wants you to do is to identify it for the purposes of the record as the standard form of contract and then it will be marked.

MR. FRAWLEY: You can assist him.

MR. NOLAN: Yes, that is the standard form of contract.

THE CHAIRMAN: All right it will be marked exhibit 30.

STANDARD FORM OF CONTRACT used by the Royalite Oil Company here marked as exhibit "30".

MR. FRAWLEY: Perhaps I should say just a word by way of description of the exhibit. It is a form of contract between blank, the vendor, "hereinafter called the vendor" and the Royalite Oil Company Limited "herein after called the purchaser", the first covenant, the first mutual covenant is "the vendor hereby sells to the purchaser and the purchaser hereby purchases from the vendor, subject to what is herein after provided, all crude oil and-or crude naphtha produced from" being a description of the property.

THE CHAIRMAN: That contract is made between whom, the producer and what Company?

MR. FRAWLEY: It is made between the producer, the blank producer and the Royalite Oil Company Limited.

THE CHAIRMAN: It is the Royalite, not the Imperial?

MR. FRAWLEY: No, not the Imperial.

MR. FRAWLEY: Now I do not want to delay, and I just want to see whether there is any modification from that covenant that I read to you. I take it, Mr. Nolan, you are much more familiar with this than I am, there is no modification from that covenant of any importance.

MR. NOLAN: Clause 4(C) "the purchaser shall at all times have the right to curtail the production to be taken by it in accordance with the provisions of this agreement and in the event that the purchaser shall so curtail the said production then and in that event it shall do so on a basis which shall be, insofar as it is logically entitled so to do, pro-rata with the reduced quantity purchased from other producers and the quantities produced by it from its own property and the vendor will, insofar as it is legally able to do so, curtail such production accordingly".

MR. FRAWLEY: Yes, that is the only one you want to call attention to?

MR. NOLAN: Yes.

Q MR. FRAWLEY: Mr. McLeod, the covenant Mr. Nolan read is a covenant which permits you when the market demand goes down to say to all the producers that you are only taking their production pro-rata?

A That is it.

Q And as a matter of fact that clause is not now of any importance?

A No.

Q The Conservation Board now does what this clause intended to do?

A Exactly.

Q So I presume it does leave it then that insofar as the producer is concerned he must turn over all his production to your Company, that seems to be the fact, is it not?

MR. NOLAN: Yes.

THE CHAIRMAN: Is the answer "yes".

WITNESS: There is some misunderstanding there, sir. Regardless of any contract which we may have at the present time and regardless of the requirements of the Imperial Oil or the British American, under the present directions of the Conservation Board the market is distributed between the different producers of the wells and the calculation is made by the Conservation Board or the production of each well as allowed to be made. For example if the Imperial Oil Company had contracts for, we will say, 10,000 barrels a day and the British American Oil Company had contracts for 8000 barrels a day, a total of 18,000 barrels, the British American at the present time might only require 7,000 barrels and the Imperial Oil Company's allottment or their orders to the Board were that "we require 11,000 barrels", that is 18,000 barrels

would be used, regardless of whether it came from a well the production of which had been contracted by the British American or whether it came from the Imperial Oil, that well would receive its true allottment of that 18;000 barrels per day. I hope I have made myself clear on that.

Q Yes, that is quite clear, Mr. McLeod, but all I wanted to bring to your attention is this, there is the Sunset Oil Company, whatever the name of the company is, has made a contract, perhaps it is with you?

A Yes.

Q One of these contracts?

A Yes.

Q All I wanted to call to your attention is this, you would not permit the Sunset Oil Company to notify you that for the next two or three months they have some arrangement with a refinery down in Saskatchewan and they were going to sell their oil to him for two or three months and then they will come back to you and deal again with you.

A I would strenuously object to it.

Q And very properly because that is what they have covenanted to do.

A Yes.

Q To supply all their oil to you?

A Yes.

Q And that is all it amounts to?

A Yes.

Q THE CHAIRMAN: Before you continue, if I may interrupt, because it occurs to me, Mr. McLeod, you spoke of the B. A. requiring so much and the Imperial

requiring so much for a given day.

A Yes.

Q So many barrels.

A Yes.

Q Have you ever had the experience of the Conservation Board refusing to allow the amount of oil to be delivered that would correspond with the market requirement.

A No sir, I have no recollection of that. Each company as I understand, the producer at the present time makes its own nomination when a new order is to become effective, to be made effective and that total is the total production that the Conservation Board allow.

Q The Conservation Board has always, heretofore at any rate, has always allowed everything as called for?

A I have no knowledge of any shortage sir, at any time. I have some knowledge of over-production, which could not be chargeable to the Conservation Board.

Q It has never come to your notice that the Board has refused?

A No.

Q To allow extraction up to the point of market requirements?

A It has never been brought to my attention.

Q MR. PLOTKINS: While we are dealing with that subject, Mr. McLeod, you made the statement that irrespective of the operations of ordering or nominating by the different refining companies, that the

allottment would be uniform over the field?

A I believe is the objective of the Board.

Q Yes, there is no doubt about that.

A Yes.

Q Now you have had that same conditions from time to time, you, as head of the Royalite, it is your duty to produce as much oil as possible for the Imperial Oil, is it not?

A So long as I produce my well efficienctly.

Q What you mean efficiently, is at the lowest possible cost?

A No, not necessarily, Mr. Plotkins.

Q Not necessarily?

A No, you might produce---

Q That is my interpretation of efficiently.

A You might produce at the least possible cost and yet produce inefficiently. You may have a well that was quite capable of producing a 1000 barrels a day and if throw that well open and produce that 1000 barrels per day at the same cost daily, not the same cost per barrel but the same daily cost?

Q Yes.

A That you would produce 300 barrels a day out of it?

Q True.

A Your direct and indirect expenses against that well will be the same as if you threw it wide open but if you produce it at three hundred barrels a day nevertheless the ultimate recovery of that well would be much greater.

Q True.

A But for those days where you were producing the 1000

barrels a day you would have very cheaply produced oil.

Q You do not work on a day to day basis but you naturally work over a period and when I say lowest cost, I mean the final ultimate cost.

A You word your question in that way, if you put your question in that way, Mr. Plotkins. My own idea is that we are endeavouring to produce as efficiently as possible at the lowest possible cost.

Q Then we are agreed on that?

A Yes.

Q So when the Board was organized and you were faced with the new situation, before that you could prorate your own well on your own mind, but when the Board came into the picture they said "well you can only nominate and therefore you must allow us to prorate over the whole field", not only on your own wells under contract---

A Mr. Plotkins, before you go any further on that question, might I be allowed to correct you because I do not want you to mislead this Commission?

Q I am not trying to.

A I begged this Conservation Board for some time to take proration off my hands and accept the responsibility of setting the allowables for the different wells throughout Turner Valley.

Q Yes.

A And then your question is, when the Board said we are going to take this out of your hands and tell

you what it is, it is just the other way about, that I requested the Board time and again before they were prepared to do it, to get ready to do it so that I would have no more responsibility with regard to prorating our own or independent production.

Q I do not dispute that, Mr. McLeod, that you went to the Board or at least you endeavored, you tried to get the Board to do it instead of the Royalite.

A Of course your question would lead one to believe that I was forced into that position. I begged to be released of it.

Q No, I did not mean to leave that impression, and I want to correct it if I did. When the new situation arose you, as a good business man and head of the Royalite, endeavored to adjust yourself to that new situation. What I am trying to say is this, that you were then faced with a different problem, is that the fact?

A We were faced with a much lesser problem. The problem was thrown on the shoulders of someone else.

Q What I mean by that problem, and I can probably clarify it, is where you could produce, if you needed 75% of the output of the well, that was supplied you, you could produce 75% in direct ratio, is that a fact?

A Mr. Plotkins, are you speaking of crude oil?

Q Crude oil.

A Well I have not the records before me but I doubt

[illegible]

X. What it is, it is [illegible] know my above, after I [illegible] the [illegible] and [illegible] before [illegible] proceed to [illegible], to get ready to do it [illegible] I would have no more [illegible] with regard to proceeding [illegible] or indecision.

I do not dispute that, Mr. [illegible], [illegible] to the board or at least you [illegible] wished to get the board [illegible] Royalties.

Of course your question would [illegible] believe [illegible] I [illegible] entered into that position. [illegible] referred of it.

No, I did not mean to leave a [illegible] impression, [illegible] must be correct it if I [illegible]. [illegible] position across you, as a good business man and [illegible] [illegible], endeavored to assist yourself [illegible] [illegible]. What I am trying to say is that [illegible] you were then faced with a different problem, [illegible] the fact?

[illegible] with a much lesser profit. The profit [illegible] the royalties [illegible] more [illegible].

But [illegible] by the [illegible], and I [illegible] bodily [illegible] it, is what you would produce, if you needed [illegible] of the output of the mill, [illegible] applied [illegible], you would [illegible] [illegible] [illegible], [illegible] that?

[illegible], are you speaking [illegible] only

[illegible] not the records before

very much if there was ever a time that the Royalite owned 75% of the crude production in Turner Valley.

Q I am just citing it as a basis.

A Then let us take a more reasonable figure.

Q Let us take 50%.

A Take something less than that.

Q Take 20%?

A Yes, all right.

Q That is only a figure to show the relationship before the Board started and after the Board functioned.

A Yes.

Q If the Royalite owned 20% and they had under contract 80% of their requirements, they did prorate that 100% to their own wells and the contract wells, to suit their own requirements, that is correct is it not, the contract says so?

A Oh yes, we prorated the market, sure.

Q So you prorated your own wells and the other wells under contract to meet your market?

A To the best of our ability.

Q Now when the Board said, when you made your nomination to the Board, after the Board was created, that relationship of 20 to 80 was disturbed because your requirements were spread over the other wells. Being the Imperial Oil has the larger part of the market, naturally the other independent wells would benefit even although they were not under contract to Imperial Oil when you made your nomination or the Imperial Oil made its nomination to the Conservation Board.

A The other wells would benefit.

Q Yes.

A I would say they secured their fair share of the market according to the Board's judgment.

Q They secured a bigger part of the market than they did before.

A If they were entitled to it.

Q If there were 100 wells and 50 of them before that were owned by Royalite or under contract, and there were 50 outside the fold and they didn't have as big a market for their output as the Royalite had, when the Board came into the picture and said "we will distribute this market over the 100 wells instead of the 50", naturally the share of Royalite in those 50 wells would go down and that is what actually happened, was it not?

A Yes, I think so.

Q So your problem as manager of the Royalite Oil Company was to put yours, your Company back in the same position you were before and what I mean by that, you put yourself back where you supplied 20% and 80%, 20% from your own wells and 80% which you had under contract, which means a lot more than just buying, seeing you have an interest in those wells and you were then faced with the problem of rearranging your relationship in that field, is that clear.

A It is not very clear, Mr. Plotkins, no. I do not think it is clear to anyone and it is certainly not to me.

Q Those are the problems, Mr. McLeod.

A You have not taken into consideration any of the factors which the Board does and rightly should take into consideration in making the allowables for each and every well in Turner Valley. You have just talked about so many wells, 50 wells here and 50 wells here, and you have taken it for granted that the conditions are the same in each and everyone of them..

Q No I have not.

A You have talked about the number of wells and the percentages of wells, that the Royalite has in that number of wells. They might numerically have the percentage you suggest but by the Board's estimate, and I quite agree that they have taken into consideration every factor which should be taken in, acreage, bottom-hole pressure, gas-oil ratio, and that is about all you can do, in calculating the allowables. Now you may have 50 wells here in this badly drained area which has a very low allowable and 50 wells over here with a large allowable, due to the fact they have a high bottom-hole pressure and the maximum of acreage.

Q You are digressing?

A No, I am not digressing.

Q In my business I naturally weighed it, otherwise I could not stand up under competition with your company or any other company, and when I say that I have taken into consideration the fact that there has been practically no change in the average output, I am talking in relationship to market, because

the factor of acreage which you seem to labour on has altered the position very little; the factor of bottom-hole pressures existed before. In other words the only new factor that the Board has introduced, which by the way reacted to the advantage of Royalite, was acreage. The rest of the factors existed and had been working themselves out in the natural course of events.

A Thus far, it has not, Mr. Plotkins, reacted to the advantage of the Royalite for the reason that in calculating crude allowables my understanding is that 40 acres is the allowable.

Q Is the unit?

A Is the maximum and up to the present there are very few wells in Turner Valley that have less than 40 acres. There are a few I will admit in the old proven area, that only have a 20 acre allottment but beyond those two or three, each and every well so far as I know has a 40 acre allowable, but where the allowable is cut down, and seriously cut down is the further reduction in bottom-hole pressures and gas-oil ratios.

Q Is that the fact, Mr. McLeod, when the Conservation Board actually prorates the market, is it not true then that all these other factors disappear as a matter of practice.

A No, in allotting allowables to each well they do not disappear. They are taken into full consideration by the Board as will be proven before this investigation is over, because Mr. Frawley mentioned yesterday he wanted to hear something about efficient oper-

ation and I think that is one of the points that the witnesses will bring out, sir, that these bottom-hole pressures are an indication, these fast drops in bottom-hole pressures are an indication of inefficient operation and that is the point I am trying to make with Mr. Plotkins now, that you cannot take 50 wells here and 50 wells here and say you have a percentage in this and a percentage in this because you cannot. If you do conduct inefficient operations in these 50 wells or any other 50 wells, then your allowables would be so seriously cut, because the Board would know because they have the record, but you would not control the situation.

Q You made a statement yesterday that if you had your way you would operate that field on a uniform basis, is that not correct?

A No I didn't say that.

Q More efficiently?

A No, the chairman asked me what were the alternatives to operating this field, to take care of the market, and I did my best to tell him what the different alternatives were. One was to create storage or build storage and operate those wells at a uniform rate throughout the year, 365 days in the year.

Q And you recommended that particularly?

A I didn't recommend it, I beg your pardon, I was not asked to recommend anything. I was asked to state what I thought the alternatives were.

Q Is that your opinion that that is the best method?

A Just a moment, Mr. Plotkins, until I get through

with this. The other alternative was to meet market requirements as they came, if the field would produce the oil, which in my opinion would be inefficient operation until we had created a much larger potential than now exists, of proven potential. I am not talking about reserves. That would be saying that if we had, if we really did have 60,000 barrels a day and wanted 30, I believe the wells could be produced on that basis 50% and not be seriously injured.

Q You surely would not recommend that method.

A I am not recommending it. I say that they could be produced over a short period of time at 50% of their actual potential.

Q Yes.

A Now we will all differ about potential and how to secure potential. All the experts and practical men in the oil business will argue about how to secure potential and there never has been more than two or three of them agreed on that yet and then the third method is, that producers who are now producing, and when the peak comes import the requirements, import the difference of what we have and the requirements.

Q All right, to go back to the original question---

THE CHAIRMAN: Before you go on precisely what do you mean by the word "potential" in the sense in which you have just been using it, Mr. McLeod.

A Well it has been a word about which there has been a great deal of argument, sir.

Q THE CHAIRMAN: I do not want the true definition, I want to know what you mean, whether it is the same as the true definition or not, when you were using it in reply to Mr. Plotkins.

A I think if a well were produced efficiently without a distinct waste over a period of 30 days, the average of that well's production, the average daily production over that period should be named the potential of that particular well at that time. At the present time they make tests which for instance are carried on for three or four hours and then they take the average of those three or four hours and multilpy that by 24 and that is the way the well's potential is arrived at, and that is one reason why we have been told that Turner Valley has a potential of 60,000 barrels a day, whereas when it was called upon to produce 28,000 barrels last August and September they had difficulty in doing it.

THE CHAIRMAN: All right, Mr. Plotkins.

Q MR. PLOTKINS: To go back to this relationship in the number of barrels produced by Royalite and its controlled wells, or at least its wells under contract and the other wells belonging to other companies or individuals we will take into consideration all those factors and you now qualify it by this fact, it would still remain a problem for you as head of Royalite tosee that you produced as many barrels, or I will put

it in another way, that you gave Imperial its requirements and in that figure---

A If you change the word "gave" to "sold".

Q Sold, all right, sold to the Imperial.

A Yes.

Q Sometimes you tell us you only buy for the Imperial and sometimes---

A We sell our own products to them.

Q You talk about acting as agent, so I don't know whether you sold or not.

A Let us clear that up before we go on. The Royalite production is sold by the Royalite to Imperial Oil Limited at the field price.

Q Yes.

A The Royalite acts as an agent to purchase crude oil for the Imperial from independent producers.

Q That is right?

A Yes.

Q Now your problem then would be that, where before, out of every 100 barrels of crude which reached the Imperial Oil, you produced or controlled under contract we will say 50 barrels out of the 100, and after the Board came into the picture you only produced 40 barrels out of every 100, your aim as a good business man and as head of the Royalite, properly fulfilling its function for which it was created would see to it that you took steps to re-establish that balance, is that not a fact?

A How would you do it Mr. Plotkins

Q I am not going to say how you will do it. We will go into that afterwards but is that not the

problem you will be faced with.

A My problem is to produce every barrel of oil which can be economically produced from Royalite acreage. Beyond that I have no particular problem. The crude I am talking about.

Q I am talking as a producer of crude.

A Yes.

Q Royalite is mainly a producer of crude?

A Yes.

Q It is functioning as a producing and carrying subsidiary?

A Yes.

Q So therefore you, as head of the Royalite, would aim to secure crude, to drill, or acquire wells or any other necessary equipment to produce crude at the lowest possible cost, not any one day but over a period of years?

A Yes, that is true.

Q So the more, the greater the production of oil which you supply to the Imperial, that belongs to or is produced by Royalite, the greater the profit, if there is a profit in drilling and operating oil wells.

A The more I produce, no matter to whom I sell it, the greater the amount of money the Royalite will have to divide.

Q The Royalite does not sell to anyone else except the Imperial?

A Our production is sold before it is produced.

Q So we can come back to the same point, the theo-

retical arrangement of Royalite is to produce crude so as to furnish the Imperial with 100%.

A You could hardly suggest to this Commission, Mr. Plotkins, that that has been the aim of the Royalite, or they would not have made these kind of contracts at a time when there was no conservation, at the time when the Royalite had the right to produce their crude wells as they wished and at a time when they had practically enough oil from production to supply the Imperial requirements in Calgary, but they didn't do it.

Q I realise that.

A They wrote this kind of contract withdifferent producers throughout Turner Valley and agreed to proratio their wells with the independent, if proration was necessary which they did do.

Q Which they did do?

A Yes, so your suggestion that the objective of the Imperial, of the Royalite, is to secure enough crude production to supply the Imperial Oil with 100% is at this time I think rather far-fetched.

Q I did not say that, I qualified that.

A You said it.

Q I said if that were possible, or I will put it another way, if it were good business to do so, but it is not good business.

A No, it is certainly not.

Q Every oil man knows that company, as a general matter of policy, wants to supply 100% of its

requirements, for obvious reasons.

A I took from your question that that was the objective, in your opinion that was the objective of the Royalite.

Q Oh no, I am not saying that.

A To carry on their program so that they would be in a position to supply the Imperial 100%.

Q That is a theoretical matter that I put.

A Well let us talk practical, you and I are practical men, Mr. Plotkins, let us leave theory out of this, will you not.

Q The only reason I am theorizing now, I am leading to other questions, to see why you, as the head of the Royalite, would not consider it good business to produce 100% of your requirements.

A Well I do not know what your objective is.

Q Of course I can see your difficulty, you are handling one branch of the business.

A And my hands are full too.

Q Yes, I realize that, and the trouble is in the oil business, Unless there is correlation of the different activities, one man sitting on top and correlating these different departments it is impossible to intelligently build the picture unless this one man is sitting there and saying "I am directing the whole enterprise". If you have one man saying "I am handling only the production" another man says "I am handling the refining" and another man says "I am handling the marketing", unless you can correlate those dif-

ferent activities and get to the head of the firm who has the power to take these different branches and use them in the best scheme, that is why I think Mr. McLeod is probably refusing or at least does not think fit to answer or to take into consideration, that is probably what I should say, these factors that go beyond the immediate policy of Royalite Oil, in other words he does not have to take into consideration what happens afterwards or how the Imperial uses the Royalite in its general scheme of producing, refining and marketing, so I will go on with my question.

THE CHAIRMAN: Mr. McLeod speaks for Royalite. any questions you have to ask him with regard to that or anything else he knows about he will answer but he tells you he speaks only with respect to Royalite.

Q To come back to Royalite and to the position that you were faced with, the Board distributes the potential market on the basis of allowables to each well and as I tried to find the picture, I do not know what the situation is, I am not saying I know the exact percentages but I do know that before you prorated your own wells and kept the market to your own wells, now when the Board instituted allowables and spread those allowables over the whole field, that your relationship then did change.

THE CHAIRMAN: Well ask your question.

A MR. PLOTKINS: I think you admitted that, Mr.

McLeod?

A At what period do you refer, to what period do you refer?

Q I am saying before the Board functioned the Royalite owned so many wells?

A Yes.

Q Contracted the production of other wells?

A Yes.

Q And if it had a market of an average of 10,000 barrels it distributed that market, whether it was high or low, I mean say 10,000, over all those wells, it distributed them over those wells?

A Yes.

Q And the result was when the Board came along and took that 10,000 barrels of Imperial Oil market and distributed over the whole field, the share of each well belonging to Royalite or controlled, or the production controlled by Royalite, went down, is that not a fact?

A Mr. Plotkins, I think the time to which you refer, practically every well in the field was under contract either to Imperial or the British American.

Q True, yes, that is true.

A Practically every well in the field. There were times when the British American may have had a small surplus in East Calgary, there might have been other times when they were short and used some of our oil which they paid back out of receipts which came in later. I am just using this as an example, I do not know that it actually

existed.

Q Yes.

A When the Board came along then they prorated the whole market so that there was no overage for the Ba A. or no underage to the B. A., no overage to the Imperial and no underage to the Imperial, the same thing as to the Imperial, each man received the nomination he made to the board and that, the total of that nomination was distributed over every well in the field which came under the Board's jurisdiction.

Q That still doesn't answer the question I asked you, if the relationship from your stand point as head of the Royalite, you are not concerned with these other things except as they effect your business?

A No.

Q If before you produce 100%, that is probably the clearest way to put it, of your own requirements either from your own wells or through the wells you had under contract, that was before the Board came into existance?

A Yes.

Q You did produce 100% of your requirements, there is no doubt about that.

A You mean---

Q Either by your own wells or wells under contract?

A Yes.

Q So you did produce 100%?

A Yes.

Q Now a week afterwards or a month afterwards we will

say, the Board comes along and you make your nomination, the Imperial rather makes its nomination?

A Yes.

Q To the Board?

A Yes.

Q And the Board says "well here this well produces this and that well produces that and---

THE CHAIRMAN: Mr. Plotkins, I suppose the witness knows but I would like to know just what do you mean by "making your nominations"?

MR. PLOTKINS: The Board each month, my Lord, phones you,-I have asked them to do it in writing in future because there are several inconveniences doing it informally, writes us and says "what will be your requirements, the market requirements of crude oil for the next month", that is what they call "a nomination".

THE CHAIRMAN: I see. You write back and requisition so much so to speak.

MR. PLOTKINS: Yes. What we do, my Lord, is we figure what our probable sales will be and reduce it down to the requirements of crude oil and then we divide it by the number of days and we say we will need an average of so many barrels a day and that goes into the office and they use it in their calcuatkons to set up the total market requirements.

THE CHAIRMAN: So when you speak about "nominations" you are talking about what you and others like you tell the Board you may require a month ahead.

MR. PLOTKINS: That is it.

THE CHAIRMAN: Thank you.

Q MR. PLOTKINS: So before the Board came into existence you produced 100% of the oil you supplied Imperial?

A Yes.

Q Whether you sold it or whether you bought it as agent?

A Yes.

Q That is right?

A Yes.

Q When the Board made the allottments to each well it does not necessarily follow that the number of wells you control produce 100% of the oil you supply the Imperial, does it?

A It doesn't necessarily follow, no.

Q In fact it worked out that you supplied less than 100%.

A It would only be by calculating the allowables of our own and contract wells we could determine that, Mr. Plotkins.

Q Did you determine it?

A Could I?

Q Did you, I mean after the first month you were faced

A with the new situation?

A Somebody may have done it in the organization but I didn't.

Q Did you cause it to be done or to be informed as to what the situation meant to you?

A The only situation which was created for me was that

I was going to produce so many barrels of oil per day, the percentage of them would not concern me.

Q You are the head of a big corporation?

A Yes.

Q You have all the facilities?

A Yes.

Q For keeping yourself informed?

A Yes.

Q You have accountants, you have engineers and you have all the necessary machinery?

A Yes.

Q To keep well informed?

A Yes.

Q So that when the situation arose that you do longer were in as good a position or at least in as profitable a position, to supply your own oil 100% to the Imperial Oil, you certainly did take steps or gave orders to tell you from your organization, to let you know.

A What makes you say that, Mr. Plotkins, what makes you say that?

Q Well because I know how I would have acted in similar circumstances?

A Oh.

Q And you are a good business man.

A Of course that may be your idea of it.

Q And I assumed you acted in that way.

A That may be your idea but there are other things besides the percentages to be considered in this and if you had given me some idea or given our solicitor some idea of the questions that you

intended to ask me I would have been prepared with the absolute facts to deliver to you and to this Commission, or to this Commission and to you, but to spring a question like that on me and expect me to answer it out of my head is just a little unreasonable I would say.

Q Maybe it is but I know, as you said yesterday, you are like me, you have had no academic training?

A No.

Q You keep everything pretty well in your head?

A Oh no I don't.

Q You decide on hard-headed business rules?

A Yes.

Q You keep in mind what is good business and what is not?

A If you will write that question, Mr. Plotkins, I will get you the answer for it but I am not going to make any attempt to answer it now.

Q We will put it another way, if that were a fact, I mean if you produced less than 100% and it meant that you were going to buy somebody else's oil, that is oil that you did not have under contract or that you did not produce from your own wells which in both cases cost you less than you had to pay to go outside and buy it, then you would take steps to remedy that situation?

A Are you attempting to determine the cost of producing a barrel of oil now?

Q No.

A Then you assume that the crude that the Royalite produces costs less money than it costs to go out and buy it?

Q Yes, because Royalite makes a profit.

A Yes, but there is much more in their operations besides production of crude oil.

Q True, but they are only incidental.

A There was some time that we operated before there was any crude oil.

Q The pipeline activities, the land activities, they are only for one purpose, to find oil and to transport it to market and therefore they are incidentals.

A We produced a lot of oil before there was any crude oil.

Q It was naphtha and now it is crude oil?

A Yes.

Q And later on it will be gas. You are producing at a profit or you cannot stay in business?

A Yes.

Q Therefore when you buy a barrel from someone else it is certainly not as profitable as when you supply it yourself?

A That is to be determined.

Q Well the Royalite's statement shows a profit of $6,000,000, whatever it is, I just glanced at it.

A Oh---

Q I am not imputing that you are not entitled to it, I am just making the statement as a fact.

A $6,000,000?

Q Well whatever it is, a profit to pay dividends and

therefore they must produce a profit and therefore they can only produce a profit in their own operations?

Q Yes.

Q So it goes without saying that they can produce their own oil cheaper than it can buy it from someone else.

A I will agree with you at the present time, Mr. Plotkins, that you can produce a barrel of oil at less than the market price if that will help your case any.

THE CHAIRMAN: Until the Christmas recess we will have just the one reporter so we will take a recess about half time.

(An adjournment of five minutes was here taken)

THE CHAIRMAN: All right Mr. Plotkins.

Q MR. PLOTKINS: Mr. McLeod, you agree then that previous to the formation of the Conservation Board that you supplied Imperial with 100% of Royalite crude whether it was produced by its wholly-owned wells or whether it was produced from the wells which it had under contract?

A From the production which we had under contract.

Q From the production which you had under control?

A That is right.

Q You are not in a position, or are you in a position to tell us after, at the present time, I will not put it that way, after the first order of the Board, what the conditions were then, how much of the oil that you supplied to Imperial Oil, was your own oil,

that is produced by your own wells or produced from the wells you had under contract?

A No, but I have stated Mr. Plotkins, that if you will write that question for me I will bring you a written answer.

Q Mr. Plotkins, I think the Commission should have that.

MR. FRAWLEY: The percentage of the, since the Conservation order took effect, the percentage of the oil which the Imperial gets from Royalite and its contract companies and the percentage it has to take from the independent companies.

MR. PLOTKINS: That is from month to month, I would like to have that.

MR. NOLAN: Now what order of the Conservation Board are we referring to?

MR. FRAWLEY: I presume Mr. Plotkins is simply referring to since the Conservation orders began to be made, about the first of September

WITNESS: Earlier than that.

Q MR. PLOTKINS: You understand what I am asking?

A Yes, if you will write it out, if you will make your question very clear in writing, we will undertake to give you a written answer, which I can verify.

Q Good enough. What I would like and I want to make it clear before I write it down, is the production month by month of the amount of oil that the Royalite supplies the Imperial Oil that was its

own production or production that it controlled in relation to all the crude which was supplied.

A Well you make that clear in your written statement, Mr. Plotkins, and we will prepare an answer for you.

Q Now I am going to ask you this question, Mr. McLeod, if the percentages, if the relationship was 80% instead of 100%, we will assume that it is and see if you agree with the principal would it not be good business for Royalite to re-establish the condition that existed before the Conservation Board came into existence and ordered this production prorated over the whole field.

A Which means in effect, that it would be good business for the Royalite to do everything that could be economically done to increase its own production.

Q That is it, do you agree with that?

A Oh certainly.

Q So that in order to accomplish this end you would have to drill more wells?

A Yes.

Q Acquire more acreage?

A Yes.

Q And you could then re-establish your position irrespective of the Conservation Board's orders, if you did that.

A We could re-establish our position in the market whether the oil went to the Imperial Oil or the B. A. or anywhere else, because our wells, if we

got the production, would get our share of the whole market, not of the Imperial.

Q That is not what I am saying.

A I am stating that it will be.

Q You say you would re-establish your position and establish 100% of the Imperials?

A No, I have not admitted that. I have admitted that it would be good business for the Royalite if they had good acreage to continue to drill wells to increase their production to the highest possible point regardless of where it went, whether it went to Imperial or the B. A., or Mr. Plotkins.

Q You are not concerned with where it goes?

A No.

Q You are concerned with supplying Imperial Oil with whatever they would use or what they can market, whether it goes to me or anywhere else?

A I hardly think that that is the situation at the present time. I think the Royalite wells and all the companies who have contracted to sell their production to the Royalite are in a position under the Board's orders, and if I am wrong I hope somebody from the Board will correct me, to share that market, not the Imperial market, not the B. A. market, not Mr. Plotkins' market, but the whole market, their fair share of that market is given to them by the Board's allowable.

Q That is correct, Mr. McLeod, if the conditions remain the same, that if there was no increased

drilling and no conditions were altered in the Valley, that would be correct.

A I see what you are coming at, supposing everyone else quit drilling and the Royalite kept drilling, put it that way.

Q No.

A You would not put it that way?

Q No, that is not it.

A I am trying to answer your question but I do not know what you mean.

Q Will you agree to this, you said before it was profitable to produce crude.

A At the present time.

Q At the present time?

A Yes.

Q So that you will agree that you would endeavor by all the means that were in your power to re-establish yourself in the position where you could supply 100% of the Imperial Oil's requirements, even if the Board do disturb that relationship.

A You get back to the same old status, Mr. Plotkins, that I am not supplying Imperial Oil's requirements or anybody else's requirements but everyone's requirements, my share of it.

Q That is true?

A Yes.

Q But you still want to produce what the Imperial wants---

A If there was a shortage of oil in Turner Valley

each person I believe would receive his percentage. There is the nomination to the Board of what can be produced from Turner Valley and each one, if he wants his total nomination, would then be forced to import the remainder of his nomination.

Q That is absolutely correct?

A That is absolutely correct.

Q But that is not what is happening at the present time?

A No it is not but what is happening is this, that the Royalite requires so much, the Imperial says "we want so much". The B. A. say "we want so much". Plotkins says they want so much, the North Star want so much in Winnipeg and someone else wants something in Brandon and that is prorated over all the wells in Turner Valley, regardless of whether it comes from Royalite wells or wells that are under contract to sell their production to Royalite or under contract to sell to the B. A. that whole production. That total is prorated over that whole market. Now I do not see how anyone at the present time and under the rules of this Board can ear-mark any production, either from any given well or any barrels from any given well for Imperial Oil, the B. A., or anyone else.

Q Mr. McLeod, all these things have been admitted, we have discussed these things for a number of days?

A But you are trying to get me to say that I am

going to drill wells to produce oil for Imperial.

Q Not exactly.

A That was your question.

Q In the end it will be for the Imperial market, we will put it another way, we will admit that the oil under proration orders comes from all the different wells, it loses its identity?

A Yes.

Q In other words it is produced by 100 wells?

A Yes.

Q But instead of previously the Royalite Oil was producing from 50, but the fact remains that if the Imperial Oil has a market for 10,000 barrels and under the new orders, your share of that market is 8,000 barrels?

A Yes.

Q You will take steps to try and get enough wells or enough acreage or take over other wells under contract, to get the other 2,000 barrels a day and re-establish yourself in the market, never mind whose market, in the market.

A Yes.

Q To the extent of 10,000 barrels, is that correct?

A We will endeavor to produce all the oil we can and enjoy as large a percentage of that market as is possible for us to do.

Q So that to do that, and the reason you do that is because it is profitable and the Imperial is a protected market so far as you are concerned?

A Is what?

Q Is a protected market, in other words the Imperial's market is your market in the main?

A Well I guess I have not made myself very clear, sir, because I tried to say that every producer in the field enjoys the proration of that Imperial market under existing conditions, every producer in the field enjoys a percentage of the B. A. market, that is what I have tried to make clear and that is a fact.

Q It does up to a point, when you have re-established your relationship it will be then as it was before, you will produce then as many barrels as you did before, and you will have neutralized the effect of the Conservation Board orders so far as the Imperial is concerned, that is what I am trying to bring out and to get you to say whether it is so or whether it is not so.

A Mr. Chairman or Mr. Commissioner, I believe the only person who is able to answer Mr. Plotkins' question is a member of the Conservation Board. I cannot answer it, I have done my best, sir. I would be just as frank with him as I have been with Mr. Frawley and the other questionners, but I have no idea what he is trying to establish.

THE CHAIRMAN: Well Mr. Plotkins, you are asking Mr. McLeod to make inferences. You are not entitled to do that. Ask him about any facts you like and we will draw the inferences if we think they should be drawn.

Q MR. PLOTKINS: Well Mr. McLeod---

THE CHAIRMAN: Or you may ask him of course in addition to facts, you may ask him about any plans which he has for the future if he has any but you cannot force the witness to give conclusions of facts, that is our function and province and Mr. McLeod, I have no doubt, will endeavor to answer you quite frankly as far as it is within his knowledge.

Q MR. PLOTKINS We are agreed, Mr. McLeod, that it is profitable to produce crude?

A At the present time, yes.

Q And it would be profitable to produce, you have said that a little while ago, as much crude as it is possible for your own Royalite to produce.

A To produce as much crude as possible.

Q Royalite would endeavor to produce as much crude as it can for its own market, being it is profitable, it goes without saying you are going to produce a lot of crude if you can sell it.

A If it is produced efficiently without ruining the well.

Q So the problem you are confronted with under the Conservation Board's orders is to just do that.

A Produce what crude they will permit us to produce, yes.

Q Permit you to produce and supply Imperial Oil its requirements.

THE CHAIRMAN: Now the witness has repeatedly said that he cannot say that he is supplying Imperial Oil, that all the oil which goes through

that pipeline goes into the one set of storage tanks so it is no more his oil than anyone elses. As I appreciate his point or his answer, but he agrees that he is going to produce all the crude and send it through that pipeline that he can possibly do.

WITNESS: Under the Board's orders, sir.

THE CHAIRMAN: Quite so.

Q MR. PLOTKINS: Then we will leave that for the present. Now we will come to these wells under contract, you made the statement yesterday that no one was forced to deal with Royalite, I mean the contract was available to anyone who wanted to sign it.

A Yes.

Q And that is absolutely correct?

A That is right.

Q THE CHAIRMAN: I do not want you to think, Mr. Plotkins, that the Board misses your point, that the Royalite would drill a great many more wells which would change its relative position in the field, that is your point.

MR. PLOTKINS: Yes, that is it.

THE CHAIRMAN: We may have that point even though Mr. McLeod doesn't and we may act on it.

Q Am I right in saying that this policy of advancing money to these independent potential producing companies where necessary and tying up their production is the means Royalite and the Imperial

have adopted of making it practically impossible for independent refineries dealing direct with independent producers.

A No, there are many wells drilled in Turner Valley to which we have never contributed one dime but who have voluntarily offered to sign that contract to sell us the oil, a great many of them.

Q Yes, but where there was no liklihood of that well's production being thrown on the market, that is any companies in which you felt you would get the production anyway, but is it not your practice to see to it that you or your agents put yourself in the position where that crude will be tied up or available to Royalite, by advancing money or by other concession,

A We have never sought such a situation, Mr. Plotkins. A great many people have come to us for assistance, asked for assistance, cash assistance, assistance in the way of material, production equipment, casing and in a good many cases we have refused to help them for various reasons, one might be that we did not consider it was a good location, another might be that we did not consider they were sufficiently financed even after they secured from us the help they sought and in a good many cases we have helped, where we knew the location was favourable and they have willingly signed these contracts, not only that but in a good many instances they have asked us, after their drilling was done to bring their well into

production and to care for the operation after it was brought into production.

Q So that whether you considered it good bus- business, having in mind all these other factors.

A Yes.

Q It naturally would have to be taken into consideration?

A Yes.

Q You are prepared to advance money?

A We were the judges of whether we would do it, whether we would consider their offer or not.

Q And the result was that crude oil came only, was sold under contract, the production if any from that well was sold?

A Yes, under contract.

Q And became part of your reserves?

A Yes.

Q Do you agree that one of the main functions---

THE CHAIRMAN: Do I understand, Mr. Plotkins, that you suggest the lending of money by Royalite always had associated with it the condition that the production of that well should go to Royalite?

MR. PLOTKINS: Absolutely, invariably.

Q THE CHAIRMAN: Is that right?

(Go to page 889)

A There was very little loaning money, Sir, as I remember it. In both cases we had a small interest in the well for cash advanced, either a royalty interest or an interest, there are one or two isolated cases where we advanced money and took our pay out of production, if any.

Q THE CHAIRMAN: Yes, where you took an interest in that way, was it associated with, and advanced money for that interest?

A Yes.

Q Did you attach the condition that a contract similar to the last Exhibit should be entered into with you, Exhibit "30"?

A That was generally one of the offers of the person soliciting the funds, that we will sell you all the production. There was a time when the producer considered that that was a distinct advantage to any Company to have production tied up. That day has gone by, some time ago. Since there has been more oil than the market would readily consume, if I may put it roughly, the shoe is on the other foot now. It is an advantage to the producer to have the sale of his production arranged for at the time the well comes into production.

Q But wherever the advantage may lie, that was a condition of your taking an interest in wells?

A It a;ways was a condition. Not imposed by us but offered by the other.

Q However arrived at it was?

A Yes.

Q MR. PLOTKINS:- Do you agree that one of

the main functions of the Royalite pipeline is to transport crude oil for Imperial Oil at the lowest possible ultimate cost to Imperial Oil?

A It transports oil for the Imperial Oil at exactly the same rate as it transports it for anyone else.

Q True, but the same condition applies there as it does to crude, if you are able to make a profit and pay back that profit either in dividends or in excess assets, the cost, the actual cost to Imperial Oil will be reduced to the extent of that profit?

A You will have to talk to Imperial Oil about that, Mr. Plotkins.

Q All right, is it not the purpose of the Imperial Oil or any other integrated oil company to produce, transport, refine and distribute crude oil products at the lowest possible actual cost, and obtain the highest possible net returns from the available market?

A Mr. Plotkins, it was suggested at the beginning I would answer any questions that you might ask, having a direct bearing on Royalite.

Q Yes?

A You are going into marketing and manufacturing.

Q Yes?

A And all those of which I know nothing.

Q Well, is that absolutely true, Mr. McLeod, that you know nothing?

A Well I know the same as any other observer on the street, but I know nothing whatever of the intricacies of manfacturing or marketing crude production.

Q Let us clarify that situation, and see if that is a fact, on the Board of Royalite you have Mr. Moore,

representing the refining?

A No, Mr. Moore does not represent refining.

Q You have the benefit of his knowledge as a refiner?

A We do not use it because we have no refining. When the Royalite Board meets we discuss Royalite business and not Imperial.

Q But Mr. Moore, when a question comes up in relationship to refining, certainly uses his knowledge to advise your Board, and you act on that advice, in fact is that not the function of a Board of Directors?

A No, the Royalite Board has nothing to do with refining. There are no refining questions that come to the Royalite Board.

Q There is the question of marketing of crude oil, to the refinery?

A No.

Q No?

A No.

Q The Imperial Oil.

A The only connection we have with regard to crude oil is that Mr. Moore makes his nomination to me, as I stated yesterday, for the amount of crude oil he requires for next month, or for the following month, and I transmit that nomination to the Board. Mr. Moore does not set the price of crude oil, has nothing to do with it.

Q No, I didn't say he did, but Mr. Moore does give you the benefit of his experience and his close connection as manager of the refining department?

A Yes.

Q In relation to any subject which you may discuss and which affects the Royalite's profits or operations or

policy, is that a fact?

A Mr. Plotkins, will you make one suggestion to me of where the Royalite requires the experience of a refining man, because they have no refinery. They are engaged, as you said a while ago, in the production of crude oil and gas and naphtha. Now there are no refining operations by the Royalite.

Q That is absolutely correct, Mr. McLeod, but.....

A Mr. Moore was not put on the Royalite Board due to his refinery experience. He was put on the Board because he is an able representative of the Imperial Oil Company, and as I stated yesterday, the Imperial Oil Company have a controlling interest in Royalite.

Q True, so you suggest that Mr. Moore does not give you, or is not there for the purpose of correlating or co-ordinating the activities of the refining department, I am not finding fault with all these things, I am trying to paint the picture as I see it, as co-ordinating the activities of the refining with the transporting and....

A I am not only suggesting he is not there for that purpose, but I would say definitely he is not asked anything about that.

Q Mr. Smith, the other director?

A Yes.

Q He is located at Head Office?

A Mr. Smith is the Chairman of the Royalite Board, and his address is in Toronto.

Q Now, Mr. Smith has a available to him the records and the advice of the employees and officers of the marketing department and the refining department throughout the West?

MR. FRAWLEY: Who is Mr. Smith? In addition to being a director of Royalite, who is he?

A Mr. J. H. Smith is the President of the Imperial Oil Limited.

Q MR. PLOTKINS: So that he is able, you say Mr. Moore does not, but he is in a position.....

A Mr. Plotkins, I do not like the way you say that, you see you are inferring that I am not telling you the truth.

Q It all depends on how you look at it.

MR. NOLAN: Now, Mr. Chairman, there is surely a limit to what Mr. Plotkins, even although he has no experience, may do. It seems to me he should put the questions as clearly as he can, and Mr. McLeod will then answer, but I do not want this to develop into a controversy as to the truthfulness of the witness.

THE CHAIRMAN: Oh no.

MR. PLOTKINS: I didn't imply that, my Lord.

THE CHAIRMAN: No, I do not think Mr. Plotkins means to suggest that at all. He says as to what is the effect, may depend upon the point of view, not suggesting that Mr. McLeod is not telling the truth.

MR. PLOTKINS: Absolutely not.

WITNESS: That is fine.

THE CHAIRMAN: Then proceed with the question.

Q MR.PLOTKINS: When you say "inexperienced", Mr. Nolan, I have been through these things....

THE CHAIRMAN: Mr. Plotkins, I am not at all interested in whether you have been or not. Just proceed with your questioning. So long as it is a

proper questioning it will be allowed, and when it is not it will soon be stopped.

MR. PLOTKINS: All right, my Lord.

Q MR. PLOTKINS: Mr. Smith is President of Imperial Oil?

A Yes.

Q He is able and has access to the information, able to secure and has access to whatever information is necessary?

A Yes.

Q To co-ordinate the activities of Royalite with the refinery department and with the marketing department?

A Yes.

Q And that would be the proper function of Mr. Smith, would it not be?

A Yes.

Q So that your Board, which is the usual Board, such as a subsidiary company as you manage, is a Board composed of the different elements that enter into producing, refining and marketing petroleum products?

A Yes, but Mr. Plotkins, if it will help you to reach the conclusion at which you are trying to arrive, I might say for your benefit that Mr.Smith has never attended a Royalite Board meeting. In fact he has never been in the City of Calgary.

Q That is a thing I do not know, but he is able to exert his influence, or to give orders, if he so chooses?

A Oh yes, he has the power.

Q So whether he is here or not, he certainly directs the destinies of the Royalite Oil Company?

A I think he is really too busy a man to lay that charge

against him.

Q Probably not personally, but he does through his assistants, in other words.....

A He has something to say about it, we will admit that.

Q Will you admit this, that your activities are directed from Toronto?

A Our policy, yes.

Q Yes, your activities, the policy?

A Entirely our activities are not.

Q So that there is a proper co-ordination between the activities of Royalite Oil Company as the producer and transporter, with the activities of Imperial Oil as the refiner and marketer?

A No, I will not agree with that.

Q You do not believe that Imperial Oil is efficient then?

A What is that?

Q You would not dispute then that the efficiency of such an arrangement, you say there is no proper co-ordination?

A No, I didn't say that there is no proper co-ordination, I say there is co-ordination, but when you start to link all three together as one, then I do not agree with you.

Q MR. FRAWLEY: Which three?

A He talks about the producing the manufacturing and the marketing.

Q MR. PLOTKINS: I am not saying that they are wrong, in what way do you mean "link"?

A That is what I gathered from your suggestion, that they were all co-ordinated or joined together.

Q Not joined, but co-ordinated, that is probably the right word, is it not, what is co-ordination, to make them fit one with the other and not overlap?

A If they are co-ordinated, they are joined together.

Q Not necessarily joined together?

A Well, we will leave it to the dictionary.

THE CHAIRMAN: All right.

Q MR. PLOTKINS: And it follows then, Mr. McLeod, that the usual practice, that is the usual practice of all integrated oil companies, in subdividing these different functions of production, transporting, refining and distributing, is to enable each division to specialize in and more efficiently take care of its work, in other words, you as head of the Royalite, doing nothing but producing, that is doing only producing and transporting, can take care of your business, face competition in that line, much more effectively than if you were handling all the activities?

A Yes.

Q In one Company.

A Yes.

Q Under one head?

A Oh yes.

Q You are specialists?

A Yes.

Q You can become much more familiar, you can become much more efficient?

A Yes.

Q And then co-ordination is necessary under those conditions?

A I would say co-operation is necessary.

Q Well is not co-operation, they are all owned by the Imperial Oil, if this was a separate entity.....

A They are controlled by Imperial Oil, but not owned by

Imperial Oil.

Q You are not your own boss 100%, you take directions from Toronto, and therefore, you must co-ordinate, not co-operate, co-operate means you are willing, there is no question of willingness on your part, you must co-ordinate your activities with Imperial Oil?

A All right, we will agree thzt you are right.

Q Is Royalite a subsidiary of Imperial Oil?

A Yes, we admit that.

Q Ownad more than 50% by Imperial Oil?

A Yes.

Q Then Imperial Oil dictates who shall be directors, is that right?

A The directors are elected by the shareholders.

Q But seeing the Imperial Oil owns 70% of stock, it gives them, or the Imperial Oil representatives can elect whom they wish?

A Yes.

Q And they can also nominate their own manager?

A Yes.

Q So that if you are not satisfactory to them they will not nominate you?

A No.

Q And in order for you to be acceptable, you must tie in your activities, in with its activities, which is highly proper, tie in your activities with the other activities of the Imperial Oil, is that not a fact?

A Not in any sense that you are trying to make out, each one of these departments is just as separate,

so far as management is concerned, and so far as operations are concerned, as if they belonged to three separate and distinct companies.

Q Up to a point?

A For example, I have nothing whatever to say about Clarence Moore in his refinery. I have no right to give a suggestion to him, and by the same token he has no right to make a suggestion to me, with regard to Turner Valley beyond his powers as a director.

Q We will put it in another way, Mr. McLeod, if Mr. Smith, as head of the Imperial Oil, tomorrow decided that the Illinois crude oil field, which has recently been discovered, can produce oil for Imperial Oil refineries cheaper and under better conditions than Turner Valley can, he would be in a position to alter the policy of the Royalite Oil Company, and say to you "Now it is no longer going to be a paying proposition for you to carry on your present program, slow down, we are just going to stand still here for the time being and will develop the Illinois field because we have our reasons", now in case he did give you such an order, have you the power to say "no, we are not going to do that"?

A I do not think that Mr. Smith would give such an order. He never has to date, and I have been with the Company a long time. If such a contingency arose, Mr. Plotkins, I think I would be taken into the full counsel of these people, and it would be threshed out either here or elsewhere, and determined what the policy should be. I do not believe that Mr. Smith would arbitrarily say anything such as you suggest to the Royalite Board.

Q I am not saying arbitrarily?

A Well it would be arbitrarily if one man took it upon himself to issue an order such as you suggest. I would say it would be very arbitrary.

Q Then suppose Mr. Smith had consulted all his different departments?

A Yes.

Q And you were shown?

A Yes.

Q That whereas producing oil for 90¢ he could produce it for 80?

A Yes.

Q And it means so much money, would you not vote under those conditions and say it was good business?

A Yes, if it was proven to me it was good business, I would accept it.

Q Then you would be in this position?

A Yes.

Q That for the time being Imperial Oil would instruct you not to cause any further development, in fact to do nothing, you are to stop development, within your power?

A Again I say, Mr. Plotkins, you are going into the future so far that I cannot see where you are going, and I am, I will be glad if you will tell me where the end of the road is.

Q All I am trying to say is that Royalite is only a part of Imperial Oil?

A You are putting up some supposition, talking about oil in Illinois being transported to the prairie Provinces and for some months all the wires possible have been pulled to further transporting some Turne Valley crude

to Ontario.

Q But if tomorrow, we will say, it was discovered in Saskatchewan, and Royalite did not have any interest in the situation, it would be the same, in other words, I am only using Illinois as an illustration to show that Royalite must, not only co-operate but co-ordinate, it is in a position to do nothing else.

THE CHAIRMAN: Do you think you need to spend a great deal of time, Mr. Plotkins, making clear to this Board, through a witness who is in a subordinate position in a subordinate company, do you think you need to do that?

WITNESS: He has gone so far, Sir, if I may interject, into the realm of supposition, that I cannot see that far.

THE CHAIRMAN: Perhaps not, but we have had questions for a good part of this morning, to show that a subordinate company is in a subordinate position.

WITNESS: Yes, and which we have always admitted.

Q MR. PLOTKINS: Is it fair to assume that any reduction in cost of crude brought about by Royalite Company operations, represented by profits whether paid out as dividends or not, derived by Imperial Oil through its ownership of 70% of Royalite, would have the effect of actually reducing the cost of crude oil to Imperial Oil laid down in its refinery at Calgary, or Regina, below the regular posted field price, the regular cost of pipeline transportation and handling?

A The Imperial Oil would certainly receive its share of

that dividend, whether it was made out of crude oil or gas or pipeline charges.

Q Yes?

A It would receive its proportion to which it was entitled.

Q So that the price which is charged for pipeline transportation, whether that is for our own companies and other independent companies, will have the same effect on the competitive cost, respective costs, of the various companies that use the pipeline?

A I would say, Mr. Plotkins that that is a matter for accountants to decide. The Imperial have an investment in this field, you know, that they made in order to secure this share of this crude oil.

Q Absolutely, I am not finding fault with it, but I am asking you if that is not a fact?

A And that that investment if returned if they still continue to make a profit, I would say that it then had some effect on competition, as a general practice, I would say that is correct.

Q As you have no control over the profits, you have no control over the profits of Royalite, how are they disposed of, Imperial Oil being the parent Company uses those profits as it sees fit?

A I do not know what they do with the dividend cheques, no.

Q So it could use, I do not know if this is a fair question to ask you, but as a practical man I think you can answer it, they could use those profits for any competitive reason that it saw fit?

A Yes, it could use them to pay dividends on their own stock.

Q On their own stock or to reduce the price or one hundred

and one things which they could do with money?

A Yes.

Q Now this is an involved question, and I do not know how to put it in any other way.

THE CHAIRMAN: We will adjourn now until 2 o'clock.

(The Investigation was here adjourned, and resumed at 2 P.M.)

Examination of Mr. McLeod resumed by Mr. Plotkins.

Q Yesterday, Mr. McLeod, you stated that you transported for the Lion Refining Company an average of 150 barrels a day?

A About that, yes, for the year 1938.

Q And that this small amount did not justify your Company giving us the privilege of a direct connection?

A That is right.

Q What do you mean by 150 barrels, was that the only oil the Lion Company purchased, or was that the total amount your Company had transported for it?

A That was the amount of oil that you received at your refinery, I assume for manufacturing purposes. The total is 48,521 barrels, and up to the 30th of November there were 334 days. 334 divided into that amount of barrelage gives an average of 145 barrels for the 11 months period.

Q That does not include, Mr. McLeod, the amount of oil we purchased from Royalite or the Imperial?

A That includes only what went through the two inch pipeline to your refinery.

Q Your figures apparently do not agree with ours.

A We have paid the Royalite Company for transporting 19,380 barrels that were purchased from Royalite or Imperial. Our bills, by the way, came from Royalite?

A Yes.

Q Then 56,916 barrels that we purchased from Sunburst?

A How much?

Q 56,916, of which a portion was delivered by truck,

in other words.....

A I don't know anything about the trucking.

Q What would you consider then an amount necessary to justify the Royalite in giving us a direct connection?

A Not the amount so much, Mr. Plotkins, as the regularity with which the shipment would be made. That is not for a market peak period. It is quite apparent from this statement that the course you pursue, Mr. Plotkins, you follow the market strenuously during the months of April, May and so on, but according to this sheet you did very little business in January, February and March. Apparently you have done next to nothing in November. What you do in December remains to be seen, but I am more concerned about the regularity of the shipments, Mr. Plotkins, than I am about the amount of oil. For example, I did not, you said, 2000 feet. I do not know whether it is two or three thousand feet, but I don't want a piece of line lying de d with waxy paraffin oil in it during a month or two of the winter, and possibly in the middle of the month of January, the coldest period, you ask me to open up that line and make you a shipment. I might have serious difficulty in doing that. By the method we now pursue you have a fair chance of securing your requirements when you want them, for the simple reason if the worst came to the worst the line that now extends between the Imperial Refinery in East Calgary, and your refinery on the Macleod Trail, could be blown and fairly well cleared of all oil. If you notified the refinery that you were not going to require any more for a month that could be done, and I am sure it

can be arranged, but we could hardly arrange that, that a branch of this main line that is operating 365 days in a year, or at least which we endeavour to operate 365 days.

Q Well I won't go into that. I will first take up the volume and regularity. Actually the Lion Refining Company purchased 140,000 barrels the last 11 months of 1938, an average of 420.72 per day. Now the reason you did not get that business - I am going to have to make a statement there because I am going to ask the question because at the present rate we pay we can truck it ourselves cheaper whenever business warrants. In other words, during the peak months with a lot of business we can use our trucks to advantage, but in the poorer months we can use our trucks to best advantage to carry our oil of the highest run.

A In other words, you use the p8peline when you have other work for your trucks, and you use the trucks to transport oil from Turner Valley when you have nothing else to do?

Q Why do I do that?

A I do not know.

Q Because I pay 21 cents. At 15 cents I cannot afford to do that, so what I am going to ask you is this. I am going to ask you would 420 barrels on an average a day be sufficient to warrant a direct connection? I mean that amount represents a lot of money?

A 420 barrels a day, 365 days in the year?

Q Yes?

A I think that would be enough.

Q So that if we can show you we do that business, and actually handled it, you would be prepared to give us

a pipeline direct?

A I do not think there is any doubt about that, but you never attempted to say that to me, Mr. Plotkins.

Q Well, coming back to this connection. I am going to labour this, not only me but others will come into this picture later on that may have that privilege. Is it very difficult for you to insist that I keep that branch line clear. In other words, that I blow it. There is a valve at the main line and we can blow it and keep it clear.

A Where would you blow it?

Q Have a nipple connection so that when we close the valve we can blow it into the atmosphere or into a barrel, and from our refinery we blow it 2000 feet into a barrel or sump, and keep it absolutely clear.

A Would you be willing to do that?

Q Yes, I offered to do that in my letter or anything that your engineers asked us to do. I have the tariff of the Illinois pipelines that shows that is done right along in the United States, in Montana and I offered in my letter to do anything and I did not qualify it either, that your engineer would insist upon if you would give us the privilege of having a direct connection?

A I may be wrong, Mr. Plotkins, but you stated no specific amount,beyond saying that you would take 1500 barrels at a time. You did not say how often you would take 1500 barrels, and my idea at that time was that you had service and still have that would deliver oil into your refinery just as cheaply as it can be done by making connection opposite your

refinery on the main line and furnishing gaugers who would certainly sit constantly on your property during the full period of any pumping I made there in addition to a line walker who would carefully go over that line to make sure there were no leaks, because we are taking the gauges in your tanks, not in my tanks. There would be no other place to gauge it.

Q That is true, all right, I will ask you what have I got to do at the present time to get oil to my refinery? Let us follow the oil to see if what you say is not already taking place, At the present time. These extra gauges and all these things. At the present time when I asked the Royalite to take 1000 barrels out of the Sunburst tankage in Turner Valley?

A Yes.

Q What happens to that oil?

A The gauger goes there and measures your tank, and the pump is started. After the pumping is completed the gauger goes back in the presence of the operator and again gauges the tank, and the difference is computed in barrels - in feet and inches - but that is not the gauge of which I am speaking.

Q No, I do not care to listen to details, I have already done that, but it goes to Calgary and to your storage?

A It eventually goes to Calgary.

Q And from your storage when I ask for oil what happens? I ask the Imperial to deliver me 500 or 1000 barrels or 1500 barrels of oil. What happens then?

A I cannot answer that definitely, but I imagine they fulfil your order.

Q I will explain to you what happens to see if there is really any difference.

THE CHAIRMAN: Oh no. When you want to give evidence you will have the opportunity.

MR. PLOTKINS: Is it a fact that this particular oil is pumped to me from your storage to our refinery through a two inch line?

A Well Mr. Moore is in a better position to answer that than I am.

Q Do you know how much we pay for that service from the Imperial Oil to our refinery over and above the regular pipeline prices?

A Over and above the 15 cent rate?

Q Yes?

A I believe the charge is 5 cents.

Q It is 6 cents?

A I stand corrected.

Q And we have to pay 6 cents over and above the 15 cents?

A Yes.

Q Well, would you say then that is not a penalty, you said it did not cost us any more. Are we not penalized?

A No, I do not think it is a penalty for this reason, Mr. Plotkins, Were it not for the volume of oil that is going through that pipeline, and being marketed by your competitors, you could not possibly get a 15 cent plus 6 cent rate, but you would have to go back to your trucking rates.

Q But through the pipeline?

A Yes, there is, and the volume going through there, and that works to your advantage to that extent, that volume gives you your small requirements at a price

that you could not possibly hope to obtain if it were not for that volume.

Q That is partly true but is the rate of the pipeline not a Government creation. In other words, has it not a charter from the Government?

A We have a charter.

Q Has it not privileges that an individual does not enjoy?

A Any individual can enjoy that privilege if he applies for it, and I do not believe he will ever be refused. I am not a member of the Government, but I do not think they would have the right to refuse any individual who wanted to lay a pipeline from Turner Valley to Calgary or elsewhere.

Q You mean then, you feel it is a favour that the Royalite is giving us?

A No. No, Mr. Plotkins, I did not mention favour.

Q MAJOR LIPSETT: What exactly is that again, that 6 cents for?

A I think the refinery man may be better able to explain that. He handles the whole situation of the storage from our refinery to Mr. Plotkins' refinery. He knows the pumping and transportation and everything, and he would be in a better position to answer that.

Q MR. PLOTKINS: You would not say this 6 cents and other conditions are made as a penalty? In other words, that they are made by your Company so as to put us at a disadvantage in respect of competition in respect of the Imperial Oil?

A Speaking generally, Mr. Plotkins, I would say it was not the policy of the Imperial Oil as far as I understand it to put anyone at a disadvantage.

Q You spoke something this morning about pipeline operations, and that justified you in having storage. You are familiar with the Illinois Pipeline Company's legal tariff in Montana?

A Well I do not know if I have it all by heart.

Q But they are, you know, the pertinent provisions of any pipeline carrier?

A Yes.

Q And you know it is customary for any pipeline to give any producer or refinery a connection. It is very seldom in these days, that it is turned down.

A I know of no producer to whom we have refused a connection, Mr. Plotkins, and as far as the connection for a refinery, I think you are the only example there is or having been refused. No one else has ever applied for it.

Q There are not very many are there?

A No, but there may be. They are not so far.

Q Is it just an accident that there are not very many of independent refineries in this country?

A Of what?

Q Is it an accident or coincidence or is it because they cannot exist under present conditions?

A I do not know why there are not more refineries. There seems to be quite a number of them. Every one is privileged to build one, I understand, if they so desire. There is nothing to stop them.

Q Coming back to this two inch pipeline. You know that at the present time Imperial Oil has to have a gauger at our refinery?

A Are you talking about this two inch line?

Q From the Imperial Refinery to our tanks, you know they have to have a gauger?

A I know there is a refinery there, but with regard to the operation I would very much prefer that you question Mr. Moore on that.

Q Well Mr. Moore might not be here.

MR. FRAWLEY: Oh yes, he is here.

A For that very purpose, to answer any questions in connection with the refinery that you may ask him.

Q MR. PLOTKINS: But anyway, at the pre sent time if you give us say 400 barrels a day average?

A For 365 days a year.

Q Well now, one month - the Imperial Oil, you operate its market seasonally, as we do business on the same basis. Our percentage of business from month to month varies pretty well with Imperial Oil?

A Well let us make it easier, on an average of 460 barrels a day for 365 days.

Q Would you say 460?

A I thought you said 460?

Q I said 400 for an average of 365 days.

A Yes.

Q And naturally according - the way there is no pipeline tariff now. There is no published tariff?

A No.

Q And so no conditions, but it has to be arrived at by mutual agreement at the present time?

A Oh yes, it has to be arrived at by mutual agreement. I do not know whether, Mr. Chairman, I have made myself clear on that 400 barrels, but for the information of the Commission I would like to say this, that the 400

barrels a day of which Mr. Plotkins speaks is on the understanding that it is for his own manufacturing and marketing requirements.

MR. PLOTKINS: Oh yes, I would like to question you on that. What do you mean by my own manufacture and market requirements?

A If you are going into the oil brokerage business, that might be something different.

Q Why should it make any difference to Royalite. If you are transporting the oil?

A Because we might be questioned by the Commission as to our part in any such brokerage business in which you might engage.

Q As to your part?

A Yes we would be transporting oil to you for sale to somebody else at any price you might set, and we could very well be questioned by the powers that be after this Royal Commission has made its finding, and somebody else is told to do so and so. I wanted to make that clear, Mr. Plotkins, that it was with the understanding that this 400 barrels a day was for your own requirements and not for some other purpose.

Q I am glad you brought that up, Mr. McLeod.

A I want to be very clear on that.

Q It brings up the question of our right, the Lion Refining Company, to do business, in other words, to buy and sell.

A Oh no.

Q What do you mean?

A It has to do with out part in any transaction that you might make and which might not meet with the approval

of any governing body that might be over us.

Q Are you responsible for what I do?

A No, but I am responsible for any part I take in the transaction. For example, you complained before the Agricultural Committee that I had refused to take some of your oil from the Sunburst well, and when the truth was known it was found out that that pipeline took from your Sunburst well not the oil that was allowed to be produced by the Conservation Board, but something more than that was requested, and our pipeline division refused to handle it. Now just such another circumstance might arise in connection with this, whether you call it a brokerage or commission business, anything you like.

Q My understanding was when you talked the 400 barrels, you meant you would require 400 barrels for your refining and distribution system.

A That is right.

Q And just to make sure that is what you meant I want to clear it up now before we go further. Coming back to this statement about my telling you something that was not just right?

A No, you did not tell me anything that was not right. We refused to take your oil.

Q Were not the circumstances that followed that there was an interregnum between the time that the Board set an allowance and between the time that the Gas & Oil Products obtained an injunction in which some of the wells produced more than the heretofore quota, and your Company took upon itself to police the field and refuse that oil. Is not that a fact?

A No. In spite of any injunction or any Court order we still recognized the orders of the Board.

Q The Board themselves had declared they were not operative for that period?

A They did not declare it to me. They did not declare their orders null and void. Their orders stood as far as I was concerned. Until I received orders from the Board that those orders were null and void, I endeavoured to the best of my ability to carry them out.

Q You read the newspapers don't you, Mr. McLeod?

A Yes.

THE CHAIRMAN: Well the duties of Mr. McLeod to his Company are not of great interest to this Board, and insofar as your question relates to a pipeline, go right ahead with it, and insofar as it does not, you might take your differences somewhere else and thresh them out.

Q MR.PLOTKINS: Well Mr. McLeod brought it up. Now to come back to this question of brokerage, if we buy oil in Turner Valley for the account of a small refiner or another refinery in Saskatchewan, and perform a service that we think we want to do, would that amount - you would not accept the oil for delivery through your pipeline, even though purchased legally?

A No, it means that I would deliver the oil to you so long as it was approved by the authorities, which are over me, whether it be the Utility Boar or the Royal Commission or whoever it may be, if it says it is all right to deliver that oil to you for brokerage purposes, to sell to someone else I have no complaint, but I will

not be involved in any legal entanglements that might accrue.

Q Would not the simplest way be the publication of the tariff that takes care of it? I asked an agreement from your Company, and I was promised one but never received one. If you will tell me my obligations, and you will tell me your obligations, I will know better where I stand, and be on a business basis.

A If you will agree to take an average of 400 barrels a day for a whole year, you and I will make an agreement. You and I, meaning the Royalite Company and your Company.

Q Thank you very much.

THE CHAIRMAN: Any more?

MR. FRAWLEY: No, that is all, thank you.

.....

CLARENCE M. MOORE, being duly sworn, examined by Mr. Frawley, testified:-

Q You are the Superintendent of Imperial Oil Company Refinery in Calgary?

A That is right.

Q And you are a member of the Board of Directors of the Royalite Oil Company?

A That is correct.

Q Are you there to represent your own Company, the Imperial Oil Company, on the Board?

A I would say so.

Q I mean the Royalite Oil Company is a Company of a very very large number of shareholders, and I am anxious to know how you are on the Board just

precisely. Have you had some stock put in your name by the Imperial Oil?

A Any stock I own in the Royalite Oil Company I purchased with my own money.

Q You purchased with your own money?

A Yes.

Q So you have a right to be on the Board in any event?

A Yes.

Q Tell me what you mean when you say you are there as the representative of the Imperial Oil Company?

A Well I can say I was representing the Imperial Oil Company and myself as a stock shareholder, and be quite correct.

Q True, but I want to know which it really is?

A I was requested to go on that board by the late Mr. A. M. McQueen.

Q Who was then what in the Imperial Oil?

A Vice-President, I believe.

Q And that has been continued so it is proper for the Commission to take it that you are there as a representative of the Imperial Oil?

A I would say so.

Q I want to call your attention to a few matters connected with the storage of oil in your East Calgary refinery. I will read you one of the recitals in Exhibit "29" which is an agreement made on the 18th day of September, 1926, between the British American Oil Company and the Royalite Oil Company, and one of the recitals is "AND WHEREAS British American Oil Company has made arrangements for using Imperial Oil Limited storage tanks located at the latter's Calgary Refinery better described as; part of Section 36, Township 23,

Range 1, West of the 5th; part of Section 1, Township 24, Range 1, West of the 5th; and said tanks hereinafter for the purposes of this agreement will be called producers' storage tanks." You were the Superintendent at the time this agreement was made, Mr. Moore?

A Yes sir.

Q Can you tell me in a few words what that recital really means?

A Why it means that British American Oil is being transported through the Royalite pipelines.

Q Or was about to be?

A Or was about to be. That was after this was signed - the tankage at the Calgary Refinery, and that we were going to handle this crude oil/in part for the obligation of the British American.

Q You were going to refine it for the B.A.?

A In part, not necessarily all of it.

Q But you were going to refine part of this for that Company?

A Yes sir, that is right.

Q At your refinery?

A Yes sir.

Q I want to know what arrangements they had made at the date of this contract to use your Company's storage tanks at your refinery?

A Simply all crude that came in, either ours or the British American's. I do not think there was anybody else involved, the oil was common oil with the exception that we knew how much belonged to the B.A., and how much belonged to ourselves.

Under the agreement a certain amount of oil per day was processed to the account of the British American. In addition we processed requirements for ourselves. Other portions of this crude was available for shipment at the order of the British American to other points.

Q A good deal of it went consistently day by day to their refinery at Moose Jaw?

A Or anyone else they might be sold to. We have records of that too.

Q In the month of September at this time in 1936 this was all your storage?

A At that time, yes.

Q I am talking about the beginning of this contract, it was all your storage and the British American would come in over the Royalite pipeline and go into this main tankage, and be common oil, but you knew how much had gone in for the British American account?

A Correct.

Q And you would process some of it day by day and you knew how much you were processing for the British American account?

A Yes.

Q In other words, custom refining?

A Yes.

Q And that has been going on since that time, and is today?

A It is with a change in the oil we are handling. We are not handling as much these days as at some periods in the past.

Q Because they have resumed two operations of their own during that time?

A And discontinued both of them.

Q And your operation is the only one at the moment?

A In Alberta, I would say, to my knowledge.

Q Then what storage was there, this crude storage say on the 1st of October, 1936, at the time this contract began?

A I am afraid you have got me, Mr. Frawley. To speak offhand I cannot do that without reference to my books, but that information can be supplied.

Q You cannot give that to me approximately?

A I would not only try, you must understand that a storage has to suit conditions.

Q You do not know how many there might be?

A I cannot say, four or five, I cannot tell you.

Q Unless we have it in barrels it is not very helpful. Before the British American Company made this contract with your Company it was carrying on its major operations at Coutts?

THE CHAIRMAN: Do you want that other information?

MR. FRAWLEY: Oh, I thought we had it?

WITNESS: Unfortunately I did not know I had to come here until I got down town.

MR. FRAWLEY: Before the British American made this arrangement with your Company.

THE CHAIRMAN: Where there is material like that that you know you are going to seek from the witness, if it would be convenient to let Mr. Nolan know ahead, and he might make it convenient to have it in your hands.

MR. FRAWLEY: I did speak to Mr. Nolan, and Mr. Nolan tried to get Mr. Moore, as a matter of

fact, this morning, and could not locate him.

THE CHAIRMAN: Very good.

MR. FRAWLEY: The major operation of the British American was carried on at Coutts at their refinery before the month of October, 1936?

A They carried on there, and afterwards.

Q But the principle operation was at Coutts, and they had a small operation carried on under the name of the Bell Refining Company in Calgary?

A Correct.

Q At that time before the inception of this contract, the crude storage in your East Calgary yard was your own? Nobody else had any interest in it at all?

A Not a bit.

Q And you did not build any after the 1st of September, 1936?

A No, I might also add that I am using more barrels a day today than the combined British American and ours were.

Q But you have not built any crude storage since? When did you build that crude storage?

A I would prefer to answer that from the books. However, your question is that, it was built in sections, otherwise I cannot answer.

Q Some of it you built at the beginning in 1923?

A Some was built in 1923 and some in 1926, but I would prefer to check those dates.

THE CHAIRMAN: Can you say when the last one was built?

A Either 1926 or 1927.

MR. FRAWLEY: Well, it was built between 1923 and 1926?

A It covers the whole, either between 1923 and 1926. 1927 there is one correction.

Q Then prior to 1936, it is only about 1936 to 1937 that you began to use Turner Valley crude on a large scale, and prior to that time your crude supplies came from Montana?

A Chiefly Cutbank.

Q Montana, and it came in tank cars?

A Yes sir.

Q In train loads, I suppose?

A Yes.

Q And this storage that you had built between 1923 and 1926 was used to store the crude oil which came in by train loads from Montana?

A Part was used for Turner Valley crude, and part for Montana.

Q For crude naphtha?

A No, Turner Valley crude, after we started to receive. We are not discussing crude naphtha to date. We have not mentioned anything that could be referred to as crude naphtha. That is another angle altogether.

Q I am in accord there. Prior to the time you began using Turner Valley crude that was approximately what year.

A About 1936 in the Fall. We had been using as it had been produced up to that time, but it had begun to assume bigger proportions in the Fall.

Q Prior to that time this crude storage was used exclusively to store the crude which came in from Montana in train loads?

A Yes.

Q And then you did discontinue gradually, finally and completely at some time in 1937, didn't you, about the month of August or September?

A All Montana crude with the exception of a small supply for special purposes was discontinued in 1937. I have had one shipment last year, I think.

Q And about August or September, 1937, if I recollect it,

A That was when the second pipeline went into service.

Q So that after that no more crude came in by train load?

A Except the small quantity for special work.

Q But the great bulk of the crude then began to move through the Turner Valley lines?

A Yes.

Q When was it you made the agreement with the Royalite Company to rent storage in East Calgary yard?

A Someone from the Royalite can best answer that.

Q Mr. Morrison tells me that the first entry in the books where they first started to pay you is in May 1938.

THE CHAIRMAN: It would be better to have the contract now.

MR. NOLAN: I had forgotten about it and I was asked to produce it.

A However, that contract was drawn in the East, Mr. Frawley, and I am not at all familiar with any of the terms of it.

Q I thought it was just some correspondence?

A I do not think there is any correspondence in my office at all.

THE CHAIRMAN: You think there was a contract?

A Let me correct myself. Whatever agreement was, it was made in the East Office, and outside of being notified

of it I have no particular knowledge of it.

MR. FRAWLEY: I would be quite satisfied to accept them, Mr. Nolan, if they are accepted as true copies.

MR. NOLAN They are true and correct copies of the original.

MR. FRAWLEY: They will have to have some identification.

MR.NOLAN: The letter is attached there and will explain.

MR. FRAWLEY: And they must be kept together.

MR. NOLAN: Yes.

MR. FRAWLEY: Then without bothering the witness - well you can look at it?

A You probably know more about it than I do, Mr. Frawley.

MR. NOLAN: The Commission understands why Mr. Moore is not conversant with this. This Company is in Toronto.

MR. FRAWLEY: Mr. Moore is only the Superintendent of the refinery. We will ask him. I offer this as an exhibit, coming from Mr. Nolan.

COPY OF LETTER DATED JUNE 22nd, 1938, IMPERIAL OIL LIMITED TO MR. J. H. McLEOD, SIGNED G. H.SMITH, AND COPY OF MEMORANDUM DATED JUNE 20th 1938, TO G. L. STEWART, PRODUCED BY MR. NOLAN MARKED EXHIBIT "31".

MR. FRAWLEY: A letter dated June 22nd, 1938 to Mr. J. H. McLeod, signed G. H.Smith, that is the President of Imperial Oil Limited. Imperial Oil Limited, Toronto 2, Ontario. June 22, 1938. 442, which is presumably his file number.

MR.NOLAN: They number their letters in

inter-Company correspondence.

MR. FRAWLEY: "Mr. J. H. McLeod, 602-2nd St. W., Calgary, Alta. Dear Sir:- When Mr. Hill, of the Ford, Bacon & Davis, Inc., arrived in Toronto, he discussed with us the rental to be charged by the Imperial for the use of two 80,000 and one 40,000 barrel tanks at the Royalite's pipeline terminal in Calgary. Mr. Hill agreed that $35,000.00 per annum was a fair charge, and this has been agreed to by the Imperial Oil Limited; rental to be started May 1st, 1938. We are attaching copy of our memorandum to Mr. George Stewart which is self explanatory. Yours very truly, G. H. Smith".

and I will read the attached memorandum which is dated June 20th, 1938. It is addressed to Mr. G. L. Stewart, Building.

MR. NOLAN: He is one of the officials in the refinery.

A General Manager of refinery for Imperial Oil Limited.

MR. FRAWLEY: And it bears no signature but it bears initials F.B.B. That is a Mr. Bimmel, he is a director of Imperial Oil Limited?

A No, he is not.

Q MR. FRAWLEY: He is not a director of Imperial Oil Limited?

A No.

Q Can you tell me what department of Imperial Oil he is in?

A Production and Gas department.

Q He is the Production and Gas Department of Imperial Oil Limited?

A Yes.

Q And this is Mr. Stewart's memorandum, and was forwarded to Mr. McLeod with the letter of June 22nd, 1938.

"With regard to the rental that is to be charged the Royalite Oil Company Pipeline Department for the use of two 80,000 and one 40,000 barrels tanks located at Calgary in the refinery yard, Mr. Hill, of Ford, Bacon & Davis Company who made the appraisal of the Royalite Pipeline, agreed to a top rental of $35,000.00 per year which Royalite should pay the Imperial for the use of these tanks. This amount, Mr. Hill states, is the highest rental he can give these tanks and this would be on the basis of installing new tankage of the same capacity. We are agreeable to starting this rental charge as of May 1st, as our 6" line went into operation on May 5th.

As to the charge to be made by Imperial for tank car loading Royalite will pay Imperial 5¢ per barrel for oil tendered in Turner Valley by producers consigned for tank car loading. This charge to apply when Royalite bills a customer direct for this service, i.e. 15¢ for transportation and 5¢ for handling and loading at Calgary."

Q Now is it fair to say you know nothing about this - about this correspondence having passed?

A I would say I know it was passed except that I did not see that particular correspondence.

Q You see this original must be here, from Mr. Smith to Mr. McLeod.

MR. NOLAN: Yes.

MR. FRAWLEY: I would prefer to have that because it has Mr. Bimmel's signature, or has it? Have you seen it?

MR NOLAN: No.

MR. FRAWLEY: Let me ask you something about it. Mr. Hill, who stayed with us all of last week, and then got weary and went back to New York, came out last summer to make an appraisal of the Imperial Oil pipeline?

A Yes.

Q And it seems peculiar that up to the time of the letter there was no rental charged for the storage or whatever service you were giving the Royalite in your yard?

A I believe that is right.

Q And it was Mr. Hill's judgment as to what the highest proportion of the expense should be, and Mr. Hill is responsible for the whole thing.

MR. NOLAN: Mr. Hill is not responsible for the whole thing. It is quite clear from the correspondence what Mr. Hill was asked to do and what he did do, and his advice was followed.

MR. FRAWLEY: There is nothing here as to what Mr. Hill was asked to do, and if it is that perhaps, should be forthcoming. He says he came to us and discussed the rental to be charged by Imperial Oil. I should not be using those colloquialisms. I will withdraw that he was responsible for the whole thing. It was the result of Mr. Hills's advice to the Imperial Oil that this charge was made.

Q It would appear so. I would not say it was the

result of his advice because I was not at the meeting.

Q And you just superintend that storage like you do your refinery?

A Correct.

Q And any part of this passed through your books in East Calgary?

A I believe I am going to get credit for some of the rent.

Q You are getting it, and should get credit for all of it.

A Well if I do not after the first of the year I will put it in your hands maybe.

Q Well so that we now have the Royalite Oil Company taking control of two 80,000 barrels of storage in your refinery yard?

A That is incorrect. Two 80's and a 40, about 200.

Q I mean the 200 barrels of storage?

A I think the word approximately would be better, because all of those sizes are slightly incorrect.

Q Well approximately 200 barrels of storage in your yard.

MAJOR LIPSETT: 200,000.

A 200,000.

Q MR. FRAWLEY: And what proportion of that is the total of crude storage you told us was built between 1923 and 1926?

A We are using another 120 for our own convenience.

Q So that there is 320 in that yard approximately?

A Yes, and that might change next week.

Q You might build some more?

A No, I might change my mind. Put in another crude tank

or take one out, whichever would appeal to me, according to my operations.

Q Do you mean you might make this decision that you have not made since 1926?

A No, I do not say, I have not made one since 1926. You asked when those tanks were built, but that does not say they were always crude storage since 1923.

Q I am glad to have your explanation. You say this crude storage which you built in 1926.....

A This tank that was built between 1923 and 1926 of which 320,000 barrels at the present time is in crude storage.

Q Is used for crude purposes?

A Yes.

Q And of the 320 now in crude storage since May of 1938, the Royalite has paid rental for 200,000 and you keep 120,000 for yourself?

A Yes.

Q And before that time did you use all of the 320 yourself?

A No, I did not have quite that much in before that time. I had about 280,000 barrels in crude storage at that time.

Q So that at the time this decision was made you brought over some storage?

A No, since the time that decision was made. Not at the time.

Q As a result of this decision?

A For better convenience in my own work.

Q In view of this having been decided then, you brought over some storage from the refined products and turned that into crude storage?

A Yes.

C. M. Moore.

Q I mean up to May, 1938, your operations were sufficiently well carried on with how much crude storage?

A About 280.

Q About 280?

A Yes, 240.

Q 240?

A 240, that is it.

Q And then you increased that to 320 and turned over 200,000 of it to the Royalite?

A As a matter of fact, we went along with 240 until sometime in August, when our peaks began to hit us and then there were larger shipments of oil leaving Calgary, particularly due to tank car shipments.

Q Now, I have here some records of closing month-end crude inventories at your plant, that is your own crude inventories, and the British American as well, and will you listen to them, and I will prove them later, but I want to get the benefit of your views upon them while I have you here, Mr. Moore, that in December, 1937, you had 95,611 barrels in crude storage, that was your crude inventory at the close of December, 1937?

A I will take your word for it, I cannot answer that.

Q Those figures are sufficiently near to what you understand?

A No, I would not even hazard a guess until I see my books.

Q I do not know of how much value it will be but I will be very glad to get those for you. Those figures are figures obtained from your office?

A I would not doubt that at all, not for a minute, but I would not say they were correct, from my own memory though.

Q And then in the month of January, 1938, your crude

inventory was 160,348, and I will read now month by month from then on, February, 188,814; March, 227,584; April, 227,760; May, 243,090; June, 178,475; July, 153,001; August, 157,057; September, 213,828; October, 205,598, that, I put to you, was the crude storage which you had, that is the total Imperial Oil crude storage which you had at the end of those various months I have read, and that would indicate the storage in these Royalite tanks?

A Yes.

Q What we might now call the Royalite tanks?

A Yes.

Q And for the same period the British American had a month-end crude inventory, December, 1937, nothing; Then January, 1938, until June, inclusive, 1938, nothing; in July, 52,222; August, 47,632; September, 7,147, and October, 5,741, and that crude inventory on hand for the B. A., that would be, would it, in these Royalite, in these tanks of the Royalite Oil Company?

A In any of the tanks.

Q In any of the tanks?

A Yes, Mr. Frawley, in any of the tanks, because already you read several inventories there that was more than the total capacity of the Royalite tankage.

Q Yes?

A And all of the capacity is never available, you must have some working room.

Q In the month of September, in the month of August, you pumped there some fifty thousand, at the end of August you had 150,057 barrels of crude storage?

A Of crude in storage.

Q What?

A Of crude in storage.

Q There of crude in storage, and the Royalite Oil Company was paying you for 200,000 barrels of storage space at the same time?

A Yes.

Q You didn't have.....

A Are you inferring that all of that crude was in the Royalite Oil Company's storage?

Q I am wondering if some of it was not even there?

A I would not think so.

Q Some of it was in your own?

A Yes. As a matter of fact, in the bookkeeping we keep it under one head.

Q So that all the crude storage which you had in the Royalite's 200,000 barrels, or in your own 120,000 barrels, was 157,000?

A Yes.

Q And that was what your good judgment on refining practices told you you should keep at that time, presumably?

A Trying to guess the orders which might come in for crude besides.

Q Yes, a refinery has some responsibility to keep adequate storage of refinery stock?

A Within reason.

Q Yes?

A Within reason, that is why I have 120,000 barrels of crude storage besides, of my own.

Q Yes, well now.....

A Which is not the case with numerous refineries which might be discussed.

Q Before you made the arrangement with Royalite last May, you had to look after your own refinery storage at your own expense?

A We had to look after it at our own expense, and we had to take into consideration that we were buying in relatively distant markets.

Q Relatively distant markets?

A Relatively distant markets.

Q You mean some other market than Turner Valley?

A Some other markets besides Turner Valley or Cutbank. We have bought a good many thousand barrels of oil.

Q You have been supplied from Turner Valley exclusively since August, 1936?

A Correct.

Q Yes?

A Correct. At the same time prior to that we brought our crude from a long distance, Mr. Frawley.

Q Yes, and you needed more storage?

A And we had to guard against the possibility of train-wrecks.....

Q Sure?

A Strikes, and acts of God, and a few other things.

Q So you had more need for storage when you were buying from Cutbank?

A Don't let us stress so much from Cutbank as when we were buying from the State of Wyoming.

Q Wyoming, and wherever it is, then the picture was changed in August, 1936?

C. M. Moore.

A Yes.

Q And you didn't need so much refinery storage, only bringing it 40 miles by the pipeline?

A Didn't need so much crude storage. Probably we would not have if we had kept to the same rate of running and didn't have to take care of shipments to other points.

Q And didn't have to take care of shipments to other points, that is, you mean, the Imperial Oil Company didn't have to take care of shipments to the Imperial Refinery at Regina and also do a service for the British American Refinery at Moose Jaw, that is what you mean?

A Or Kamsack, Saskatchewan, or Winnipeg, or any place you want to mention.

Q Your company did take on these extra obligations, did they not, for a consideration, I suppose, they did take on the business?

A We would sell crude and we will sell to anyone who has got the money.

Q So that required some more storage, didn't it, I supposed

A The point is that we put 120 barrels, or 80 barrels, 80,000 barrels more in this Summer for that purpose.

Q This Summer?

A Yes.

Q But the Royalite certainly assisted you in piling up storage to meet these outside commitments, by agreeing to take off your hands 200,000 barrels of storage at $3,000.00 a month?

A I can only say this, that if you were running a pipeline and had a peak demand.....

C. M. Moore.

Q That is the pipeline you are talking about now?

A I am talking about pipeline and terminals, had a peak demand of 28,000 barrels a day, I would not expect you to go into that business with only 2-40,000 barrel tanks at the end of your line, because if something happened to your customers' ability to remove 28,000 barrels out of one of those terminals every twenty-four hours, you would not last 30, you would not last 48 hours at your given pipeline rate because you only have 80,000 barrels of total storage, which works down into something like, shall we say roughly 70,000 barrels of volume of available room, Mr. Frawley, and if your customers' demands cannot be taken care of currently at your terminal, at your terminal, and removed therefrom, then the pipeline, the carrying agent, would be embarrassed and would be compelled to back up into the field.

Q How long does it take to move 3,000 barrels of crude from the Royalite plant in Turner Valley into your refinery yard in Calgary?

A I think that is a question for Mr. Coultis.

Q Yes, perhaps so, hours or days.

MR. COULTIS: A matter of about four hours.

Q MR. FRAWLEY: And the Royalite Oil Company has lots of storage in Turner Valley, has it not?

A They have a reasonable amount.

Q How much, 105,000?

THE CHAIRMAN: We will get witnesses to speak about all these things.

MR. FRAWLEY: Yes.

THE CHAIRMAN: Unless you have some purpose asking for it now, to put something to Mr. Moore.

MR. FRAWLEY: That is it, no other purpose except to put something to Mr. Moore, they have 105,000 barrels of storage in Turner Valley.

THE CHAIRMAN: He does not know.

WITNESS: No, I cannot answer that directly, Mr. Frawley.

Q MR. FRAWLEY: You will assume that?

A Yes.

Q They have just one customer, that is the Imperial Oil Limited, and the British American Oil Company, and the Lion Refinery, they have, I mean, three customers?

A Correct.

Q And you take the great portion of what goes through?

A Possibly 65%.

Q Possibly 65%, and the British American about 30, and Plotkins 5, is that about right?

A That would be reasonable.

Q And it is your opinion them that they need 200,000 barrels of storage at the terminal, although the oil is, from the moment it enters the pipeline, either yours or the British American's or Mr. Plotkins.'?

A Not until it gets into the terminal.

Q Not until it gets into the terminal?

A No.

Q In East Calgary is it yours?

A They are responsible for the delivery of a certain amount of oil, Mr. Frawley.

Q That is something I am not going to pursue with you

because Mr. McLeod tells us it is your oil as soon as it enters the gathering line?

A But it must be delivered in a given quantity.

Q But it belongs to you as soon as it begins to move in the gathering line?

A Yes, that is correct.

Q So what he is doing, he is paying you, he is paying out $3,000.00 a month to store oil that belongs to you, and the British American and the Lion Refinery?

A Of course, we rent him a heated building too, that tank is heated.

Q Be it heated or otherwise, that is what he is doing?

A Yes. Now, I do not want the Commission to get the idea that it is just bare steel. We are responsible for the repairs and maintaining the heating system.

Q That is what makes it $3,000.00 a month then?

A Well, it helps.

Q Yes. Any handling charge that is made to anybody is a charge made and collected by the Imperial Oil Limited?

A Yes.

Q Mr. McLeod's company does nothing but transport, for which it is paid 15¢ by three companies, your company, British American, and the Lion Company?

A Yes, or anyone else that might use the pipeline.

Q And all other charges that are made for handling is done in the refinery yard and, therefore, you make it, and you charge for it?

A Yes.

Q If it is a loading charge you make it and you charge for it, and Mr. McLeod has nothing to do with those charges

whatever?

A Correct.

Q Now, to clear up one minor matter; as I understand the Lion operation is that he has certain crude in Turner Valley and that is delivered into the Royalite line and then taken to these same storage in your yard?

A Yes.

Q Then when he wants crude, that is common crude, as you have told us?

A Yes.

Q When he wants crude for his refinery, just what happens mechanically without being too detailed about it?

A We pump it to the Lion.

Q From these storage tanks to where?

A To the Lion Refinery, there is only one operation, we take a hold of the suction of one tank, it might be mine or it might be the Royalite's.

Q I see?

A And it is common oil, you know all the tanks that Turner Valley is stored in.

Q So it may not come out of Mr. McLeod's storage?

A Not necessarily, sir.

Q It comes out of that tank which is attached to the two-inch line?

A It comes out of the manifold in the pump.

Q And it goes over to the Lion Refinery through a two-inch, small two-inch line?

A Yes.

Q And he is charged what for that?

A 5¢ per barrel.

Q Now, then, does the British American Oil Company pay anything to your company for the storage which is referred to, in the second recital of this agreement, Exhibit "29", which is referred to as storage which has been arranged for with Imperial Oil Limited?

A Since I have not made any collection, I cannot answer that question because the local operation, Mr. Frawley.....

Q You do not know?

A I don't know anything about what might have occurred in the system and I do not know whether these could be considered Royalite or Imperial tanks at the present time.

Q The British American Oil which you process from time to time comes out of this 200,000?

A Comes out of all the tankage which might be used for Turner Valley crude.

Q Again, it might be out of that or it might not?

A Undoubtedly some of it moves from my own storage.

Q So there are 320,000 barrels of tankage out there, of crude tankage out there?

A Yes.

Q And when you go to process some Imperial you go to any of the 320, when you go to process some British American you go to any of the 320, and when you go to make delivery, when you go to make delivery to the Lion Refinery you go to the 320?

A Or any other customer.

Q Or the British American at Moose Jaw or the Imperial at Regina?

A Or the North Star at innipeg.

Q Or the Sterling at Yorkton, or any other?

A Yes.

MR. FRAWLEY: That is all. My next witness will be Mr. Coultis.

THE CHAIRMAN: Before we start with this witness, Mr. Nolan, was there something else you were going to produce?

MR. NOLAN: We were going to askfor any correspondence out of which grew any agreement between the Imperial and the Royalite, whereby the Imperial agreed to pay the pipeline price of 15¢, or earlier, the higher rate. My understanding is that there was no correspondence about that but that it was arranged verbally. A search has been made and there is no correspondence dealing with it, and Mr. McLeod said in the box, there is no formal written agreement and never was.

THE CHAIRMAN: Well, I did not understand from Mr. McLeod that he had made the verbal agreement himself. Who was the officer of Royalite who made this verbal arrangement?

MR. NOLAN: That is something I will have to ascertain. I only learned it was verbally done when I enquired.

MR. FRAWLEY: And, I take it, Mr. Nolan, this is every bit of correspondence which you can find with respect to the rentals?

MR. NOLAN: Yes.

THE CHAIRMAN: Then, without going through my notes, was there anything else?

MR. NOLAN: The third thing was, would I prepare for the Commission a statement of the pipeline charges from the beginning. That is at the moment being prepared. We have to go into the books for the earlier years and it takes a little time to do it, but it will be available for this Commission before to-morrow evening, and I think that was all that you really wanted me to do.

THE CHAIRMAN: And your maps.

MR. NOLAN: No, the map.....

MR. FRAWLEY: The map has been turned over to me.

MR. NOLAN: The map is taken care of, and it will be available to-morrow.

MR. FRAWLEY: I do not know about that. It will certainly be available by to-morrow or it will be delivered to the Commissioners at the earliest possible moment.

THE CHAIRMAN: I want, either by common agreement or by some witness speaking about it, to have it put in to-morrow, so that we may consider it as evidence over this holiday, and the same thing applies to these things we are speaking about now.

MR. NOLAN: Yes, my lord.

MR. FRAWLEY: We will speak to that again before we close.

.....

Samuel Coultis.

SAMUEL COULTIS, having been first duly sworn, examined by Mr. Frawley, said:

Q Mr. Coultis, you are the manager or superintendent of the pipeline department of the Royalite Oil Company?

A Yes.

Q And how long have you held that position?

A Since January the first of this year.

Q Your office is in Calgary?

A Yes.

Q And prior to that, Mr. Coultis, you were what?

A Field Superintendent for the Royalite Oil Company in Turner Valley.

Q That is for all departments of the Royalite Oil Company in Turner Valley?

A Yes.

Q And since the first of January of this year you have restricted your work to the managing of the Pipeline Department from Calgary?

A Yes.

Q Now, before you put in any of your many maps, you were good enough, Mr. Coultis, to show on this Calgary district map of the topographical survey of Canada, the three lines of your company?

A Yes.

Q Together with the Royalite No. 1 plant, No. 2 plant, and the B. A. plant?

A Yes.

Q Those are absopption plants?

A Yes.

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MR. FRAWLEY: I offer this as an Exhibit, sir.

(Topographical Survey Map of the Calgary District showing the transportation lines of the Royalite Oil Company pipeline here marked as Exhibit "32".)

Q Mr. Coultis, Of these three lines, will you be good enough to tell me which of the two-4 inch lines is the one your company built?

THE CHAIRMAN: I wonder if he would start at the beginning and tell what the whole map is.

A I have a small map.

Q MR. NOLAN: Let the Commissioners see it and see if it is clearer on ours than it is on the Government map?

A This little legend may help. This thing, sir, is the Royalite plant or the mainline pumping station.

THE CHAIRMAN: Now, Mr. Frawley, I suggest we put this in as well, it will be Exhibit "33".

Q MR. FRAWLEY: How would you describe this Exhibit "33", Mr. Coultis?

A A small map showing the trunk lines of the Royalite Oil Company Pipeline Division.

(Small map showing trunk lines of Royalite Oil Company Pipeline Division here marked as Exhibit "33".)

Q THE CHAIRMAN: With legend attached?

A Yes, my lord.

Q Now you are going to explain that map, Mr. Coultis?

A Commencing at Turner Valley crude naphtha absorption plant products.

Q Yes?

A And in peak loads crude oil is pumped through No. 1 line. ..

The No. 2 line and No. 3 line, 4 inch and 6 inch lines, are both used entirely for crude oil. These lines terminate at a given point at the mainline pumping house, following different routes through to the Imperial Oil Refinery at Calgary. No. 1 line has a total footage of 150,242 feet, 4 inches, of 4 inch pipe. No. 2 line.....

Q THE CHAIRMAN: What kind of pipe is that?

A This particular line is 4 inch standard lap welded, plain end bevelled for welding and entirely welded. All joints are welded. The No. 2 line....

Q MAJOR LIPSETT: What is this, is that 6 inch?

A No, this is all 4 inch in here. There is a very little bit of 6 inch in this end.

No. 2 line is built of the same type of pipe, except that originally this pipe was Victolic pipe, coupled by a Victolic clamp, coupling or clamp. This latter was welded. That has a total length of 165,499 feet 4 inches, and it is 4 inch all of the distance.

No. 3 line is an entire 6 inch seamless steel line, bevelled for welding and all joints welded.

That is the trunk line system. These pipes are all buried at varying depths from 2 feet to 5 feet. This line is the old line. Both new lines are buried from 42 inches to 5½ feet deep. When these lines are laid they are thoroughly cleaned, covered with asphalt, wrapped with burlap, with another coating of asphalt applied over the burlap, and carefully placed in the trench to prevent breaking of the covering.

Q THE CHAIRMAN: Are the two pipelines in one trench?

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A No, sir, separate trenches. They follow the same route very closely except when they come in on some of the Calgary road allowances, they are on each side of the road in some instances.

Q They are steel pipe?

A Yes. At this point our mainline gathering station or tank farm and main trunk line, pumping station, is located. It shows more clearly on the map here.

Q MR. FRAWLEY: Why are the two set, why are your 2-4 inch lines so far apart, were they both your own lines originally?

A This is the original line.

Q You are referring to No. 1 Calgary trunk line?

A Yes.

Q Tell us about that line, who built it?

A That line was built by contract in 1925 by Williams Bros. of Tulsa, Oklahoma.

Q For whom?

A For the Royalite Oil Company.

Q Which is the line you took over from the Regal Company?

A No. 2 line.

Q oh, No. 2 line?

A That line is composed of the Regal pipeline with an extension of approximately, about 8 miles of new pipe added to each end of that line, coupling from a point in here to the Royalite trunk line pumping station. The line was replaced over a distance here of about 2 miles.

Q You are referring to the Calgary end then?

A Yes, from the Regal line westward. From that point on new line was laid straight through to the Imperial

Refinery or the terminal tankage. The No. 3 line was commenced in October, 1937.

Q Did we get the date of the second one?

A That was.....

Q When was it bought from the Regal?

A That was the Summer of 1937.

Q MR. FRAWLEY: When you bought it from the Regal?

A I do not know that date.

Q Let us have the date, Calgary No. 1 line was built when?

A In 1935.

Q And put in operation?

A In December of that year.

Q The Calgary No. 2 line, which is the next in order, when did the Royalite Oil Company begin to operate that line?

A I believe that was August, 1937.

Q THE CHAIRMAN: That is the line purchased in the main from the Regal Company?

A Yes.

Q The Regal was a refining company, was it?

A Yes.

Q MR. FRAWLEY: And then the third.....

Q THE CHAIRMAN: Just a minute. You say there were two-8 mile lengths added.

Q MR. FRAWLEY: When were they added?

A During construction, sir, in the Summer of 1937. The Regal plant was approximately three miles from our main pumping station, so it was necessary to fill that gap and to extend the line on through to the Calgary Refinery. New pipe was used for that.

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Q THE CHAIRMAN: And that was in the Summer of 1937?

A Yes.

Q MR. FRAWLEY: And in case the matter comes up, and to save confusion, that pipeline of the Regal Company was operated under the name of what, the Alberta Pipeline Company?

A The Alberta Pipeline Company, I understand.

Q Then the No. 3 Calgary trunk line of 6 inch, when was it constructed and put in operation?

A Commenced in October, 1937 and built to a point approximately 15 miles out from the plant, from the trunk line pumping station.

Q Yes?

A Where it was tied in or looped in to No. 2, 4 inch line, and operated in that manner during the Winter.

Q Yes?

A Work was commenced on the Calgary end of constructing the balance of that line in February, 1938,and proceeded as rapidly as possible until it intersected the first section laid, where it was tied in or connected. That was completed, I believe, on May 4th, 1938.

Q THE CHAIRMAN: The whole No. 3 line?

A Yes.

Q MR. FRAWLEY: Now, give us the length in miles, you have them all in feet?

A Yes. I can give you in miles.

Q Now, before you do, Mr. Coultis, as we are going to leave these with the Commissioners, perhaps in not very much detail, will you run over these two maps, Exhibit "32",

A Yes.

Q Would you like them turned the other way?

A I always like to follow the oil. This was made last night from these maps, from the smaller maps. No. 1 line is coloured blue on this map. No. 2 line has been coloured green. No. 3 line has been coloured red.

THE CHAIRMAN: This map is Exhibit "32".

Q MR. FRAWLEY: Exhibit "32".

A Those colours were applied at Mr. Frawley's request, those three colours.

Q And then there are plants marked "Royalite No. 1 plant," is what, what plant is that?

A Royalite No. 1 plant, that refers to the pipeline division as the main branch line pumping station.

Q And otherwise it is the Royalite No. 2 absorption plant?

A The No. 1 absorption plant is located in the same district.

Q All in the same district, but not in the same yard?

A Practically in the same locality.

Q Then there is also shown here Royalite No. 2 plant, that has nothing to do with the trunk line?

A More than it was necessary to extend the gathering line to that point for the gathering of white products or the absorption plant gasoline.

Q And you have also marked here?

A British American plant.

Q Has that any connection at all with your trunk line?

A Yes, it was necessary to extend a separate line to that plant in order to pick up absorption plant gasoline

which could not be mixed with crude or transmitted through crude lines from the field.

Q MR. NOLAN: Is it clear, I understand that we are talking about the main trunk lines only?

A We are talking about the main trunk lines up to that point.

Q And that is what the map shows, the main trunk lines?

A Yes.

Q You were going to give the miles?

A No. 1 line, 29.2 miles in length; No. 2 lines, 31.2 miles; No. 3 line, 31.4 miles, total, 91.8 miles trunk line.

Q MR. FRAWLEY: I think you might, Mr. Coultis, no, I think we had better get the gathering line before we start talking about the operation of anything at all. I think myself before we put in the large scale map, Mr. Coultis, that you might file the small scale map of the gathering lines. I quite agree with you it is quite difficult to follow because the lines are so small, but we can go from that to the larger scale map. Have you one of those here?

A I have only one copy.

Q Yes, this is pretty clear, and I think we had better offer this, Mr. Chairman.

THE CHAIRMAN: What is it?

MR. FRAWLEY: What is this map, Mr. Coultis?

A A map of the gathering system in Turner Valley.

Q It is called the "oil gathering system"?

A The oil gathering system.

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(MAP SHOWING THE OIL GATHERING SYSTEM OF THE PIPELINES IN TURNER VALLEY HERE MARKED AS EXHIBIT "34").

Q Now, I think if you simply show on this the main pumping station, if you can , and I think that is all I will ask you, and then you can go on to the larger map?

A It is there.

THE CHAIRMAN: That is another map which you are going to mark next?

WITNESS: Yes.

Q A duplicate in every way?

A Yes, there is probably an extension of a new line, or two, which is not shown here.

Q On the big map, which is not shown on Exhibit "34"?

A Yes,

Q MR. FRAWLEY: It could be brought up to date?

A Yes, very easily.

MR. NOLAN: It is difficult, because it is changing every day.

THE CHAIRMAN: Now, you are offering the big map too, are you?

MR. FRAWLEY: Yes.

MR. NOLAN: There are three there.

MR. FRAWLEY: It is the same one, it is in three sections on that map, that is how big a scale it is.

THE CHAIRMAN: The big map is in three sections but the three sections make up this one map, Exhibit "34"?

MR. FRAWLEY: That is right, sir.

THE CHAIRMAN: All right, those three sections will

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be Exhibit "35", A, B, and C.

(MAP PRODUCED IN THREE SECTIONS HERE MARKED AS EXHIBIT "35", A, B and C.)

MR. NOLAN: Which way is this map just marked?

A From the south end of the field up.

Q MR. FRAWLEY: The map also would show the main trunk line pumping station, the location of it?

A Yes.

Q THE CHAIRMAN: The mainline, trunk line pumping station?

A Yes, or the trunk line pumping station.

Q Which is shown on Exhibit "34", or is it?

A It is shown there, but not in detail, it is shown right here where the line terminates.

Q Well, now, you might tell us what those are?

A There is a total of 73.2 miles of oil gathering pipeline, composed of 4 inch, 3 inch and 2 inch pipe. Practically all of those lines that have been laid for the purpose of serving crude oil wells, are buried to a depth of 5 feet in order that waxy crude, which will fill and solidify, can be pumped during cold weather, making a total of 165 miles of trunk line and gathering lines in the entire system.

Q What proportion of these gathering lines are 4 inch, 3 inch and 2 inch respectively, if you know?

A That is changing from time to time.

Q As at the date you had the figure 73.2 miles?

A Approximately 181,312 feet of 4 inch line; approximately 80,000 feet of 3 inch, and I am sorry, sir, that I cannot give you definitely the length of the 2 inch. We have been adding 2 inch quite rapidly lately, and I

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have not that figure here.

MR. NOLAN: You could work that out from what you have got?

THE CHAIRMAN: It will be the difference as at that date?

A Yes, as of that date.

Q THE CHAIRMAN: Mr. Frawley, will you find out what was the date? We have 91.8 miles of trunk line and 72.3 miles of gathering line.

Q MR. FRAWLEY: As of what date, Mr. Coultis?

A December 12th, and, with your permission, sir, I would like to submit the individual footage of the different sizes of field lines.

Q Footage and mileage?

A Yes. I have the mileage here, but it is the total mileage of the three sizes. If you want that broken down I will be glad to do it.

Q If you will separate that and have it for the morning?

A Yes.

Q December 12th of this year?

A Yes, that also includes the line to the Home-Millarville.

Q Yes?

A In this system there is also a number of storage tanks throughout the field varying in size from 55,000 to 10,000 barrels capacity tanks. In the central tank farm, located at the trunk line pumping station we have a total of pressure storage used for storing high vapour tension products, such as absorption plant and naphtha and also standard storage tanks, which are practically atmospheric pressure tanks, a total of 118,000 barrels

in the main tank farm. In addition there is 1-10,000 barrel tank located at No. 2 field storage, field pumping station, and 1-10,000 barrel tank located at No. 3 pumping station. Now, should I follow a barrel of oil through?

Q If we have now all the statement which you want to make about the physical set-up of the system. I wonder if we have it all?

A We can follow that.

Q Have you covered pumping stations ?

A No, sir.

Q Tell us about the pumping stations then?

Q THE CHAIRMAN: Before you do, this tankage which you have there, is that entirely used for the purposes of the pipeline?

A Yes, it does not include any production tank at any individual well.

Q That is what I was coming at, does it or does it not include the production tank of Royalite as a producer of crude?

A No, sir, it does not. The nearest spot that you can come to that would be on the Sterling Pacific. It happens that our No. 2 station is located on that lease but each individual well has its own production tank and that tank, sir, is what we term a "floater", meaning that there is oil continuously being pumped, gathered throughout that system, pumped into the tank, and at the same time pumping is going on from the tank, that tank cannot be guaged, only stop-guaged, at any one particular hour.

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Q You say each producer has a tank at his well?

A Yes.

Q His own tank?

A Yes.

Q The producer does?

A Yes, he does.

THE CHAIRMAN: All right.

Q MR. FRAWLEY: Then you were going to tell us about your pumping stations?

A May I state, before we go to the pumping station, that we have 71 gathering pumps located throughout the entire field, located at the producers' wells for the purpose of taking up his oil and transporting it to the different field stations. Then in the south end of the field we have No. 3 or Longview pumping station, composed of 1-10,000 barrel tank, 3 power-driven pumps , 2 National transit plunger pumps, $4\frac{3}{4}$ x 8 inch capacity of pump, at 1,000 pounds pressure. We also have a complete gasoline or gas engine driven stand-by unit, known as a Gasso unit, capable of pumping at 1,000 pounds pressure and driven by a 100 horse power gas engine. The 2 National transit pumps are driven by electric motors, one being 75 horse power, the other one 100 horse power. At that station there is also an office for the field guagers, a garage for three trucks or cars, and a boiler house housing a 70 horse power boiler for heating the oil in storage, heating the pump house and the office building. No. 2 pump station, or Sterling pump station.....

Q It is located?

A On the Sterling Pacific lease, also is equipped with

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1-10,000 barrel tank; 2-5 x 18 National transit pumps, capable of pumping at a pressure of 700 pounds and driven by electric motors; 1-75 horse power, 1-100 horse power. This station also has a stand-by Gasso unit driven by a 100 horse power gas unit and capable of pumping at 1,000 pounds pressure. In addition there is a boiler house housing 1-70 horse power boiler used for heating oil and heating the pump house.

Q THE CHAIRMAN: Everything you are describing relates to the pipelines?

A Yes.

Q Pure and simple?

A Yes. Number, the mainline or trunk line pump house is located at the head of the trunk line. In this district we have 12 tanks used for storing crude oil and 13-500 barrel, 10 pound pressure storage tanks for storing absorption plant gasoline or naphtha. From those tanks the oil is received at the mainline pumping station where there are located 3-National transit 5 x 18 triplex plunger pumps, directly connected to 3 Clark 2-cylinder, 200 horse power gas engines. The rating of those engines is 200 power at sea level but does not represent the true horse power at 4,000 feet.

I believe that is all, sir. I might say that all tanks are equipped with the latest, most approved Fulmite fire systems, and in the tank farm there is located, on the Fulmite system, a complete Fulmite mixing plant. We keep the Fulmite powders in a dry state and they are mixed at the time of fire. Each tank is also connected to live steam which is

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supplied from the Royalite boiler house, which is not a part of the Royalite pipeline division. Water and fuel are also supplied to Number, the trunk line pumping station, from the main pumping station of the Royalite Company in that district, and fuel from their fuel system.

Q THE CHAIRMAN: You speak of the pipeline division, that is kept as a separate division, is it?

A Yes.

Q In the internal arrangement of your company's affairs?

A Yes.

Q That is treated as a separate thing?

A Yes; I believe, sir, that covers our pumping stations.

Q MR. FRAWLEY: Now, Mr. Nolan called my attention to 12 tanks which you had at your No. 1 pumping station?

A Yes.

Q Did you cover those?

A Yes, they are covered in the 118,000 barrels.

Q You mentioned those?

A Yes.

Q Does that dispose of all of what you might call the direct physical assets of the company?

A No, sir.

Q Then what else?

A We have our own transportation system.

Q Coming under sundry assets, perhaps. No, go on?

A We have a fleet of 7 passenger cars including my own, one Buick, the balance are Chevrolet coupes. 3 trucks, 1-2 ton and 2-3/4 ton; 1 R. D. Deisel driven pipe layer, or it is in reality an R. D. 4 Caterpillar equipped with pipe-laying equipment; we also own one Barber-Green

ditching machine. The division has its own work-shop, welding shop and storehouse all housed under one roof, in which is stored secondhand material coming in, also specialized parts such as pumping repair parts and sufficient stock to meet emergencies which may arise at night or on Sundays; we maintain our own office in a separate building. We have our own dwellings for four of our employees there, our field superintendent, his assistant, our chief guager and our pipeline foreman, construction foreman.

Q MR. NOLAN: How many men have you?

A Our men, the average, sir, including the field office staff, guagers, fitters, foremen and line-walkers, with several labourers, has been averaging, with the exception of heavy construction work, about 75 men. I have them all broken up into their different classifications, if you care to hear them.

MR. FRAWLEY: I do not know as we need that.

THE CHAIRMAN: I did not just follow where they are coming in in connection with your assets.

MR. FRAWLEY: No, they are not coming in in connection with the assets. Mr. Nolan brought them in.

MR. NOLAN: To give you some idea of the number of men employed in this department. It is a general statement which should have gone in at the beginning when we started to move the oil. I think Mr. Coultis will explain what duties are performed by these various men.

Q MR. FRAWLEY: But I would like to pretty well exhaust the assets, if I can now with Mr. Coultis, and I am using the statement of the capital investment

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prepared by Mr. Morrison, and I think it will be of some help if I will just run over them with you, not the amount at all, not the figure, but just what they are, you have told us about the oil-gathering lines?

A Yes.

Q All that you want to say about that?

A Except if you want to cover these maps.

Q Oh, yes, we will get to them, but I mean in the statement of your assets of the various kinds of them used by the pipeline division?

A The major items?

Q Yes, the major items. I have a very complete list here, and if you will tell me now those you have dealt with you can tell me, and those I recall to your mind, you can deal with them, the oil-gathering lines you told us where they are and what they are?

A Yes.

Q The Calgary trunk delivery lines?

A Yes.

Q That is rather a new name, by the way, the Calgary trunk delivery lines, is that your delivery?

A No, it should be the trunk line.

Q Just the Calgary trunk lines?

A Yes.

Q The field pumps, you have told us all about them and all you want to say about them and where they are?

A They vary in number, they are gradually increasing as new wells have been drilled.

Q You have dealt with those?

A Yes.

Q The tank farm, you have told us about that?

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A Yes.

Q The motor equipment?

A Yes.

Q Then there are sundry equipment of $28,576.00, what kind of things would be included under that, Mr. Coultis, would you know?

A I am not prepared to say from memory.

Q And the pump houses, you have told us about those?

A I have told you the contents of the pump houses. I did not enumerate the buildings because, naturally, those pumps are housed in very good, steel buildings.

Q Then in addition to that you do use some of the utilities of the Royalite Oil Company?

A We do, sir.

Q You might tell us something about that?

A They transport our heavy transportation; the trucks I enumerated, the three small trucks are merely service trucks. They transport heavy pumps, pipeline supplies and the heavier transportation.

Q Then in addition there are such things as the fuel gas lines, those are what you would call the utilities of the Royalite Oil Company which your division uses in part?

A We do, and the water system.

Q And the water lines, and the boiler plant?

A And the power plant, the electric power plant for lighting.

Q And the forge and machine-shop, which is a large item?

A Yes.

Q Part of that you use?

A Part of the main office.

Q The fire fighting equipment?

A Yes.

Q I will just run over them and you can agree that these are used in part by your division, the company garage?

A Yes.

Q The storehouse and warehouse?

A Yes.

Q The electric light plant?

A Yes.

Q The sewer plant line?

A Yes.

Q The employees' garage?

A Yes.

Q The residential quarters?

A Yes.

Q The office buildings?

A Yes.

Q Road equipment?

A Yes.

Q Ditching machine?

A We have our own ditching machine and part time we use theirs when available.

Q The salvage department? A small item of a few hundred dollars?

A Yes, oh, very little.

Q The permanent steam plant?

A Yes.

Q You also make use of the laboratory and its equipment?

A Yes.

Q And the motor equipment, you have told us about that?

A Yes.

Q Now, them, that is all, is it not?

THE CHAIRMAN: Gentlemen, you will try and get these things all cleaned up to-morrow?

MR. FRAWLEY: Yes.

(The Investigation was here adjourned and resumed at 10:30 a. m. December 21st, 1938.)

::::::::::::::

The Province of Alberta

IN THE MATTER OF THE PUBLIC INQUIRIES ACT

—and—

IN THE MATTER OF a Commission, dated the 12th day of October, A.D. 1938, to inquire into matters connected with Petroleum and Petroleum Products

Commissioners:

The Honourable MR. JUSTICE McGILLIVRAY
(*Chairman*)

—and—

L. R. LIPSETT, ESQ.

Session:

CALGARY, Alberta DECEMBER 21st, 1938

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Witnesses:

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E X H I B I T S

I N D E X - Cont'd.

.....

December 21st, 1938.
10:30 A. M. SESSION.

SAMUEL COULTIS, having been recalled,

Continued Examination by Mr. Frawley:

MR. NOLAN: Perhaps, Mr. Chairman, you will remember my asking Mr. Coultis to give us the distances on the two, three and four inch pipes?

WITNESS: Gentlemen, I regret to admit an error in converting footage on these trunk lines as shown on the map submitted yesterday, I find there is a slight error.

Q THE CHAIRMAN: The 91.8 miles, you had?

A Yes, you will find on this map the engineer's figures are not very clear.

Q MR. NOLAN: You might refer to the map by its number, Exhibit "33"?

A No, I had not the number, in speaking of No. 1 trunk line I stated that it was all 4 inch, I am not sure, that I used the word "all" but that it was a 4-inch line. In putting in the river crossing and coming out of the plant yard 6 inch was used to a distance, a total distance of 4,361 feet, which is shown on your map, right in that section. I believe, sir, you questioned me on that yesterday and you pointed it out, on No. 1 line, right on that, that is the river crossing there, sir, and the extension out of the plant yard there. That would alter your total trunk line mileage to a total of 92.17 miles.

Q 92.17 miles?

A 92.17 miles. No. 1 line would be 29.28. No. 2, 31.34,

and No. 3, 31.55. Those, I am satisfied, are accurate engineer's figures.

Answering the question on the length of gathering and lateral lines, and this is of December 20th, 2 inch, 89,482 miles, feet, equivalent to 16.9 miles; 3 inch, 99,855 feet, equivalent to 18.9 miles; 4 inch, 189,674 feet, equivalent to 35.9 miles, making the total footage of gathering lines of 379,011 feet, or 71.7 miles. These alter the grand total, the total mileage of all lines of 163.87 miles. Those figures are all of December 20th, and will, before the end of the year, be somewhat altered as we are replacing approximately 9900 feet of 2 inch pipe with 4 inch pipe, anlarging one line, but is not included in this.

Q What is the size of the trunk line?

A No. 1 trunk line, sir, is largely, with the exception of approximately 4,000 feet, 4 inch pipe. The balance is 6 inch.

Q MAJOR LIPSETT: That is the 4,361 feet?

A That is it, sir.

Q MR. FRAWLEY: Mr. Coultis, will you tell the Commission what your practice is with regard.....

Q MAJOR LIPSETT: Just a moment, the No. 2 and 3 lines, what are the sizes of those?

A The No. 2 line is all 4 inch, and the No. 3 is 6 inch,all the way through.

Q THE CHAIRMAN: No, well now, No. 1 is 4 inch except for the four thousand odd feet, and that is 6 inch?

A Yes.

THE CHAIRMAN: All right.

Q MR. FRAWLEY: Mr. Coultis, would you tell the Commission what your practice is with regard to the upkeep of your line?

A Of all the lines, sir?

Q Of your system, of your complete system?

A In the beginning when the line is laid every precaution is taken to lay the line in such a way that the expansion will be taken care of, which is a very grave factor in a country with extreme climatic changes,which we have, and we find it very necessary to weld all lines. We find that the very best pipe, - the screw and couple pipe which we use is not entirely satisfactory for all services because in the Winter that will pull in two. Now, that is due to two causes, sir, the temperature in the earth and even although your temperature was not down to freezing you might be called upon, in the case of plant products, that is light gravity stuff.....

Q Out of the absorption plant?

A Yes, or even a tank of naphtha, that might be very cold. In the case of crude oil we find it necessary to heat that oil for two reasons, to keep it within a reasonable temperature on account of the pipeline and also to prevent congealing of the paraffin wax, which is very high in Turner Valley crude, this would congeal and entirely plug the line, which has partially happened in the past in some of the smaller field lines. Now, we are endeavouring to keep all oil, it is heated to a certain extent in the producer's tank, not so much for transportation but a heavy waxy oil has a tendency to congeal water, suspend water, and unless that is brought

up to a reasonable temperature to allow the water to drop out, we would freeze that line. That all then is taken or pumped to the main gathering point, either No. 2 or No. 3 field station, where it is again kept warm or heated, in order that we may transmit it down to the main tank line. In moving that oil from main storage to Calgary we have tubular heaters throwing out steam as heaters, and we find it is necessary during really cold weather to bring that oil at the trunk line pumping station to approximately 70 degrees Fahrenheit. Now, in maintaining the lines, they are constantly being checked.

Q At the time of laying what extra precaution do you take besides welding?

A Our practice now is to asphalt the line with a particular grade of asphalt and that is put on hot and to guard against pin-holes or bubble holes and to prevent soil stress, which is the movement of the pipe in the soil, we wrap that with burlap and again coat it with asphalt and that at the present time is giving us reasonable protection.

Q Now, that is what I want to know about. Now, in connection with the maintenance and repair of the rest of your system, what is your routine procedure?

A Well, that covers a multitude of equipment, engines, pumps.....

Q Pump line, gathering lines, you have told us, perhaps, everything you want to say or tell to us about the trunk lines, except, let me ask you, if you found a piece of trunk line falling into disrepair, what do you do?

A If we find a trunk line which we do not consider is of sufficient pressure to operate safely, it is cut out and

replaced, valves are examined and replaced and repaired.

Q Mr. Coultis, do you know whether or not that replacement of that pipe which you are dissatisfied with, is charged to operating expenses?

A I believe it is. I believe it is charged up to repairs.

Q Yes, to annual operating expenses, it appears in the annual operating costs?

A Yes.

Q That is what I understood, all right. Now, go on?

A Now, I think that we have covered probably the trunk lines pretty well.

Q Now, in the gathering lines, what do you do there, if you find anything wrong, do you do the same thing?

A The same thing.

Q You take it up and cut it out and put in a new one?

A Or replace the entire.

Q And you are doing that from time to time?

A Continuously.

Q And how about your tank farms, your storage tanks?

A The outside of the tanks are kept thoroughly painted with aluminum paint. Under the very high sulphur content of oils and even the gas we find that it is necessary to use the very best grade of aluminum powder, mixed with varnish, a special varnish that will hold that in place and resist corrosion. The inside of the tanks are inspected and cleaned annually, the bottoms are cleaned and the tank is inspected for corrosion.

Q Now, when you find that, with even that good care, that permits a piece of tankage to get out of repair to a point where you are not satisfied with it, what do you do then?

A Well, if we consider that the tank has sufficient life left in part of it we repair it.

Q You repair it?

A If not, it is scrapped, or sold.

Q And replaced?

A For some other purpose.

Q And replaced?

A Yes.

Q Now, in other words, perhaps it is fair to put it to you that you are, that you follow the practice of continually repairing your system, and your trunk lines, your gathering lines, and the other assets which are used in connection with those?

A We do, sir.

Q And, in your opinion, Mr. Coultis, does that practice have the effect of extending the life of the asset almost indefinitely?

A No, I would not say indefinitely.

Q Well, what would you say about that?

A I would say that it has the effect of keeping the system workable and saving it.

Q Indefinitely?

A No, indefinitely, is just a little too much.

Q If you go on taking up pieces of pipe and replacing them and you do that as much as you like, the company puts no restrictions on you as to how much repairing you can do in that fashion?

A No, sir, I am expected to keep that system working 24 hours a day.

Q That is right, and you expect it to be as good next year

as this year?

A No, I cannot say that. May I.....

Q Useful, I mean?

A Useful, yes.

Q Just as useful this year as next year?

A May I interject this, I cannot truthfully say to you that I can take this line and cut pieces out of it and splice in sections, because I cannot do that and feel that I have as good a line for this one reason, one of the many reasons, if it is necessary to cut a live oil line and take out a section.....

Q What do you mean by a "live oil line"?

A We consider any line where oil or gas, a live line if it has been put into service and still has gas or oil in it.

Q Yes?

A It is impossible, practically impossible, to go into the middle of one of these trunk lines and cut out a section and know that you are free of gas. I can cut into a gas line with a torch and re-solder it with gas in it. I say gas, not under pressure, but the difficulty is to make a satisfactory weld on a pipe that is handling hydrogen sulphide gas or oil with a hydrogen sulphite content, in either gas or oil, and I state just there, because when you empty a line you have a residue of gas remaining that will cause a sulphide scale, which is very difficult to weld and make a seal and give you strength, so I would not be prepared to say on that line that I can repair any line and leave it in as good a condition as it formerly was.

Q No?

A That is some experience, sir.

Q You have been, over the past years, you have been carrying on this practice of repairing and renewing and replacing?

A I have, sir. It is sometimes necessary to flange that in, meaning.....

THE CHAIRMAN: To what extent has this been necessary?

Q MR. FRAWLEY: To what extent has this been necessary?

Q THE CHAIRMAN: I mean how much of your line is spliced?

A I probably put in four to six thousand feet total in the No. 1 trunk line. In the field lines I would not like to state the footage, but that is being done more or less continuously on the older lines.

Q MR. FRAWLEY: It is all done for the purpose of keeping it in a state of 100% operating efficiency, is it not?

A As near as we can keep it up to a high efficiency.

Q And, as I say, it is your responsibility to do that?

A Yes;

Q Do you constantly cut out and replace and renew, as in your judgment it is required?

A Yes.

Q And when you replace a piece of pipe, by the way, in a trunk line I presume you also asphalt and burlap that new piece?

A Yes, we do.

Q You put it in, in as far as you can, into its original condition, as when it was laid new?

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A Yes.

Q And that goes on without any exception over the whole length of the trunk lines and the gathering lines?

A Yes.

Q And if some equipment above ground is getting into a state of disrepair, you, I presume, take that out and replace it and renew it?

A We do, or take it to the shop and repair it, or repair it on the job if it is possible.

Q Yes.

Q MAJOR LIPSETT: Is that line that you put the four to six thousand feet, is that the old line, Mr. Coultis?

THE CHAIRMAN: The No. 1 trunk.

A Yes, that is the old line.

Q MAJOR LIPSETT: And is that the entire replacement which has been made, I think it was built in 1925?

A That is right.

Q Is that the whole replacement?

A I think that would cover practically all of it, sir.

Q That is about 150 yards, or perhaps 500 feet?

A Yes, that does not include probably altering, in the life of that line it has been altered some at the Turner Valley end. In other words, we had the pumping station here and then we changed the main pumping station here and there have been replacements on account of that. That was largely because it was re-routed, and then when you re-route a line at the high pressure end I always find that it is safer to replace that with new pipe because you are close to the high pressure end and it is not so

expensive.

Q MR. FRAWLEY: You are using your No. 1 4-inch line every day, are you not, Mr. Coultis?

A At the present time, sir, we are batching or not batching, the pumping plant product, through it, along with some naphtha and it does not require operating 24 hours a day.

Q I did not mean.....

A To take that up at the present time.

Q I did not mean you were using it all day every day, but it is being used right along?

A It is, sir.

Q This original line which you built in 1926?

A Yes.

Q And it has to be a perfectly good job, to your satisfaction?

A We are not having any trouble.

Q You would not be using it if it was not?

A No.

Q And that is the one which has been there since 1926?

A 1925.

Q And that also goes for the Alberta pipeline which you took over in 1937?

A It is operating.

Q It is doing, the 1925 line is doing for your purposes, for the purposes of your company, it is doing as good a job as it did when it was built?

A Yes.

Q And that goes for the rest of the system?

A Yes.

Q Now, Mr. Nolan asked me to, and I wish you would just

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explain to the Commission how you get a batch of oil through the field storage, through your gathering lines and through your storage, into Calgary, and use your map?

A May I use this map?

Q Yes, please.

THE CHAIRMAN: You are now referring to Exhibit....

MR. NOLAN: "35A" I think it is.

WITNESS: That is right, sir. May I take a specific well?

Q THE CHAIRMAN: Yes.

A I am not particular in any well but it probably will help.

Q Do;

A The most southerly well on the system is National 2, the West Side well is located at that point, and that well has an allowable set by the Conservation Board of 146 barrels per day.

Q Now, this is the well you are going to follow through?

A Yes.

Q The West Side?

A Yes.

Q That is what it is called?

A That is the name of it, the West Side No. 1 well, producing crude oil.

Q Yes?

A We have a field gathering line 4 inches in diameter running down to this point; in order to reach to the West Side we thought it advisable to come to this point with 3 inch pipe because we would tie in a lateral from Brown at that point and then extend 1949 feet of 2 inch to this one well. At that well the producer has his own tank and

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at least 475 barrels of crude in those tanks, and our guagers cover the field 24 hours a day, keeping track of every well that we are operating our lines to, keeping in touch with the flow of oil in the entire field and he finds that this man must pump out but that he cannot pump out during the daytime because all these wells pumping through this trunk are working, which would exert too high a pressure on the pump at this point to get into this line, so to-night he comes in and together with a representative of that well or in this particular instance that is a British American production, purchased by them, so our man is required to find their representative so that the oil can be measured in his presence. They run a measuring tape into the tank, a steel tape, and they get the exact depth of the top of the oil in the tank. They take the temperature of it and the gravity, and they agree on those points. Then the valves of that tank, which were kept sealed with car seals, so that they cannot be tampered with, under our jurisdiction they are opened and that pump is put to work and the oil is pumped out. The guager returns sometime later and together with a representative of the other company, the tank is again measured to get the bottom of the tank, the remaining oil in it. Then they compute the difference between the top guage and the lower guage and determine the true number of barrels, corrected for temperature, and the proper gravity, which does not alter the measurement but it fixes the price. Then those valves are again locked or sealed. That oil is pumped through this line, crosses over to No. 3 gathering station where it enters a 10,000 barrel tank. That tank, sir, serves this

entire field here and at a pre-determined point on this trunk line all wells in that district; providing this station has trouble we possibly, we could, if the load is not too heavy, divert that oil to No. 2 oil station. When the load is heavy, as it was this Summer, it took a great deal of switching lines in order to carry that large volume because practically all of the oil was coming from the south end of the field, and that point is approximately 12 miles distant from our main trunk tank farm, at the head of the trunk line. In order to reach this field we came down through to this point directly from the pumping station, main tank farm, with a new 4 inch line, bringing it across to this point and in to No. 2 station. As the field was enlarged and the load became heavier it was necessary to duplicate that with another new 4 inch line right straight from here to No. 3 station.

Now, if we may go to the other map and keep this point, with the exception of, there are two other lines coming directly from the trunk tank farm or mainline station, one terminating at this point and the other going through and coming directly to the British American absorption plant; that is an entirely separate line that only carries white products or absorption gasoline. These systems all feed into the trunk tank farm and are continued on this next map, Exhibit "35B". Picking up these lines at this point, that point, that plot there is No. 2 Royalite gasoline plant. That also delivers plant products through a continuation of this line directly into the tank farm.

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Q MAJOR LIPSETT: Is that a blue line?

A That is a green line. The other line leading from this point is taking crude oil from the Sterling Pacific lease, part of it, part of it is coming through the No. 3 station. One of the wells is producing at this point, and that line will carry discolored naphtha or crude oil. When you do that, sir, you batch it, you have a certain amount of naphtha in the tank throughout the field, and the guager plans his work so that you can pump it, a certain amount that day and then later use it for crude oil.

Q THE CHAIRMAN: Just to interrupt there, if I may, I just want to be clear, there is absorption gasoline, naphtha?

A And crude oil.

Q Those words are the same, I suppose?

A Absorption gasoline is made in the absorption plant from natural gas and naphtha is from the gas-cap wells producing through the separator at the wells.

Q So they are different in character?

A They are, sir.

Q And then you have crude oil?

A Yes.

Q Now, those are the three types of oils?

A Petroleum products, sir, which are produced in Turner Valley.

Q Now, you have described the line that leads to Calgary?

A Yes.

Q Do all these petroleum products come through that same line?

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A To Calgary?

Q Yes?

A No, sir. Nos. 2 and 3 lines on your map here, sir, are carrying nothing but crude oil.

Q No. 2 and No. 3?

A No. 2 and No. 3.

Q That is of the trunk lines?

A Yes.

Q Nos. 2 and 3 of the trunk lines carry nothing but crude?

A Yes.

Q Yes?

A The No. 1 line, you will note, has three colors.

Q These are the trunk lines you are speaking about?

A Yes, the No. 1 line, is indicated on my map in three colors, indicating that it will carry, that it can carry crude oil if necessary, absorption gasoline or plant products, and naphtha. In the past we were also called upon to carry a fourth product, clear naphtha, but that product has ceased, largely ceased to exist.

Q MAJOR LIPSETT: White naphtha?

A White naphtha.

Q What is the difference in that?

A It must have a test, undergo a test by the Sobalt Coloumeter, it is a testing device to test color of petroleum products and that must be better than 22 color or water white, to be called clear naphtha.

Q THE CHAIRMAN: And you say that is largely a thing of the past?

A Yes, that is largely a thing of the past.

Q Take the other three, which are not a thing of the past,

you say your No. 1 line of the trunk line can carry crude, absorption gasoline and naphtha?

A That is right.

Q When does it, and how do you prevent it from being intermingled, or do you?

A In the Summer time or during a heavy load that line also operated 24 hours a day, continuous service, along with the other two. It was necessary to move in the different products and the day that we are batching, we have sufficient tankage in Turner Valley that we can build up approximately a week's supply of storage, in our tank farm we have pressure storage there that is capable of holding 10 pounds pressure, and that is pumped into these tanks and held under pressure, otherwise it would all evaporate, and when we have about a week's supply we commence pumping that product right in on top of the crude.

Q Yes?

A Pushing the crude out, and there is an undetermined, I would not be prepared to state, because it varies, amount of that mixture in that line when it gets to the refinery, there is a certain amount of that naphtha discolored, that must go to the crude tank because the color has been ruined, and you have also mixed heavy ends, that is, heavy fractions of the crude that is forced through. At the refinery there is a man checking that line continuously and testing and when that is O.K'd as white product with no heavy ends in it, that is diverted to whatever tank they desire it in there.

Q But you have to first push out all of the crude oil?

A And wash the line, allow enough products to wash the line, which is discolored and mixed with crude and, therefore, it is necessary to throw that into crude.

Q Is that not a great loss to the person producing that article?

A Well, it is, to a certain extent.

Q That naphtha is pushing out crude and cleaning the line?

A That, there is a loss there, sir. The loss is not possibly as great as appears, I am not prepared to state what that loss would be, that goes into the crude tank and will raise the gravity of the crude of those tanks and, of course, a great deal of it is recovered in distillation.

Q How is that absorbed, we have been talking about something which may be of some interest still, Mr. Frawley, while you were out, it is probably of importance, this No. 1 trunk line carries crude and absorption gasoline and naphtha and the Nos. 2 and 3 lines are limited only to crude oil, as I understand Mr. Coultis?

A Yes.

Q We are now discussing what prevents the intermingling of those and how it is worked out and who gets paid for what and who absorbs the loss.

Q MR. FRAWLEY: I would like to clear that up right now. Mr. Coultis, how does the producer of naphtha get paid for his naphtha and where?

A Just gets paid right in his tank at the well.

Q Before it gets into your line at all?

A Yes.

Q So he doesn't lose?

A No, sir.

Q If anybody loses it is either the Royalite Company who

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sells it to the Imperial Oil or the Imperial Oil that takes it and uses it?

A I think it is the man that probably pays for it, at least processes it, I am not prepared to answer that because that is a refinery problem. My job is to get it in to him.

Q And you have to do a certain amount of intermingling?

A It is necessary, yes, at the present time, during the slacker season, where it is preferable to utilize one line for that we are doing it and we do not batch unless it is absolutely necessary.

Q THE CHAIRMAN: You have used the word "batch" very often, just what does it mean, or what do you mean by it; I batch, but that is not it?

A I am just a little nervous on this stand on that account, I am very liable to use some oil-field phraseology and I may be checked up, sir, and if I may.....

Q If we do not understand any term we will ask you?

A Batching, sir, in this instance, is holding that oil there until you have sufficient that you consider it justifiable to pump through that line in one lot, a batch means a lot, a certain amount of oil that we consider worthwhile putting through there, and we put through as much as we can of the one type of oil to prevent this discoloration or degrading. It is an accumulation of oil of that nature in one spot.

Q Your absorption gasoline, how does it compare with naphtha?

A Much lighter.

Q Much lighter, and a more valuable product, or less so?

A It depends, sir, on what type of product they are making, largely dependent on the vapor pressure, the vapor pressure, the high vapor pressure gasoline is much harder to handle without great loss than the low vapor pressure. All the absorption plant products, as a rule, are high vapor pressure. They have high voltility and the price is largely governed to-day on that vapor pressure because at a high vapor pressure you can make more barrels of fuel, and the price goes down as the pressure goes up.

Q MR. FRAWLEY: Now, I understand the processing of.....

A Excuse me, Mr. Frawley, until I finish this subject, which rather interests me .

Q MR. FRAWLEY: Yes. I understand the process of pushing out the crude oil and cleaning your pipe, what about the intermingling of your absorption gasoline and naphtha, are they treated as one in the pushing out process?

A No.

Q Which do you use to push with?

A This colored naphtha is the wad. In other words,, it has lost its color. We push that in back of the crude oil so that pushes the crude and when the plant product comes along all it does is mop up or clean up behind that.

Q And the plant product would be the absorption gasoline?

A Yes.

Q Which is the discolored, which is apt to be, the naphtha?

A Yes, produced at the well in the separator.

Q Yes. The naphtha is frequently discolored and you use it first to do the pushing, the wad, you say?

A Yes, providing we have sufficient of the thing to do it.

Samuel Coultis.

Q That is what I was wondering about, do you possibly have enough to push, so as to clear your line?

A At the present time, sir, there is not enough gas-cap naphtha or discolored naphtha from the gas-cap wells to do that on every instance. We do it where possible.

Q So that your finer product is necessarily degraded to some extent by the circumstance that you have only the one line?

A Yes.

THE CHAIRMAN: All right, Mr. Frawley.

Q MR. FRAWLEY: What is the activity, if you have not enough of it at the moment, as you say from the gas-cap well?

A Of naphtha?

Q Yes?

A Pump in your absorption product on top of your crude.

Q And that causes some degrading?

A Oh, it is bound to, yes.

Q THE CHAIRMAN: This would all be done away with, of course, by the utilization of another line, I suppose?

A Yes.

Q I suppose if the results seemed to justify the capital expenditure to that extent?

A That is it.

Q But I take it that, if I understand you aright, it would save a loss and would be important, to prevent this mixture?

A Yes, it would certainly save some loss.

Q That somebody has to pay somewhere along the line?

A Yes.

Samuel Coultis.

Q And you think it is probably the man who is processing it and making it into gasoline for sale to the public?

A Well,.....

Q It would not by any chance be the public that would absorb that loss in the end?

A I tried to keep to pipeline, I am sorry, that is my end of it.

THE CHAIRMAN: All right.

Q MAJOR LIPSETT: Can you give us some idea about how much the loss is, any figure?

A It would be such a general statement, sir, that I would prefer not to make it, because I am not in a position to calculate figures on it.

Q I was not thinking of figures?

A I do not really think it is so very serious.

Q How many hours would it be, you have to get naphtha all the way from the Valley to the refinery?

A Oh, yes, sir.

Q And was that four hours we were told that took?

A Well, that four hours was a really general statement because I was not pinned down when I was asked that, sir, to the volume of these lines we handled at that time, it was rather a general statement. I felt safe to say I could put 3,000 barrels through these lines in four hours but it would take, to try and answer that question, it would take possibly sixteen or eighteen hours from the time that it left Turner Valley until it arrived in East Calgary at the refinery.

Q Well, but what would there be, what I was trying to get

at, would there be four hours' or sixteen hours' flow of this discolored naphtha when you were clearing the pipes?

A It would be in the line that long, is that it?

Q No, would there be four hours' flow discolored when clearing your pipes?

A Not at the present time, no sir, we would probably pump that in there in two or three hours, it will vary.

Q There would be something like two or three or four hours ?

A Yes.

Q Flow of naphtha?

A A few years ago, sir, we could probably pump a whole day of discolored, but we have not got it. Would it help you any if I would say that, I do not want this figure to be accurate, but there would be, it will be necessary to displace between twenty-three and twenty-four hundred barrels of fluid in that pipeline. In other words, the pipeline holds that much oil.

Q Yes?

A So it means displacing that much before you begin to get naphtha or your other product at this end. Shall I go on?

MR. FRAWLEY: Yes, go on?

Q MAJOR LIPSETT: Is there a serious depreciation then in the price between the two, is there much of a loss in money?

A In that discoloration?

Q Yes?

A Or mixture?

Q Yes?

A I do not think it would be so serious. You would have it in both ends. You start in here, you have the mixture and you have to chase that out then and then you have

another one, that is not quite so serious because you can push it with crude.

Q THE CHAIRMAN: In this pushing process, is there the converse of degrading the absorption gasoline and the naphtha by elevating the character of the crude?

A Oh, yes, it would.

Q So that by and large, the crude man is doing well in there being but one line. As Major Lipsett says, his measurement is taken in the Valley, which is in the tank?

A Yes, but at our terminal.....

Q He neither loses nor gains?

A At our terminal tanks in Calgary that oil is withdrawn and the gravity is also accurately checked there, sir, because there is no, really no difference in putting that light product into that oil, as far as changing that gravity in the oil, because you are pumping oil from many wells in Turner Valley, of different gravities, and any oil leaving the terminal tank leaves at a definite gravity, so any admixture of lighter products in there would only have a tendency to change that gravity very little. It would not matter how much it would change it, the oil would still be withdrawn for shipment, refining or any purpose, and measured at a definite temperature and definite gravity taken.

Q Do you think that would be taken into account, it is all right to say nobody loses, but you buy, we will say, absorption gasoline from somebody at a certain price, and you know before it reaches Calgary, by reason of there being but the one line, it is going to be degraded, surely that is taken into account in the price you pay,

because there is going to be a proportionate change in it from what it was when you took it. I suppose you do not concern yourself with the prices and how they are arrived at?

A No, sir, I do not.

Q Of the different products?

A No, sir, I just move them.

Q But there must be a loss somewhere. If you take the naphtha or gasoline and you degrade it and then you have to re-elevate it, somebody must absorb that charge. However, you do not concern yourself with that?

A No, sir.

Q MR. FRAWLEY: Very good, Mr. Coultis.

A This is a continuation also of the field and these lines are serving the plant, a few of the edge crude wells, that is the eastern edge, and passes largely through the old naphtha-producing well territory , and then they parallel pretty well at this point into the tank farm on Exhibit "350". Continuing all of the south gathering line trunk, it reaches the main tank farm at this point and the pumping station is located there.

Going to the north end of the field we go out an additional 8 miles. This map, I am sorry, does not show you the new Home-Millarville well. That is there now. There is the location, the second location is about here, and we have recently.....

Q How is it panning out, we hear about it from day to day?

A They are drilling.

Q They are drilling again?

A Yes.

Samuel Coultis.

Q All right ?

A From that well to the tank farm is approximately 8 miles, making the territory a little more than 20 miles long that we cover.

Q 20 miles long?

A In Turner Valley, yes, and that is spider webbed with lateral small gathering lines 2 inches, to each individual well, 2 and 3 inches.

Q Which you are not counting in this length?

A No, I am speaking.....

Q You have 20 miles of line outside of the lateral lines which are feeders to it?

A Yes, I am speaking of pretty well a straight line from one end of the field to the other. At the present time we have found it necessary to replace this line, which is not included in the figures I have givem you, but which will be completed possibly by the end of this year. We have found it necessary to replace this present line.

Q THE CHAIRMAN: At the present rate, you will probably have a lot of line in by the time we are finished?

A I hope to have it in this year, sir, because there is going to be a pretty heavy frost in January.

Q MR. FRAWLEY: You think there is going to be a frost?

A Quite a bit, Mr. Frawley. I think I have covered the gathering pretty well there. You understand, sir, that every line in the field is patrolled by line-walkers and the trunk line?

Q THE CHAIRMAN: Are those three lines in use all the time?

A These three lines?

Q Yes?

Samuel Coultis.

A At the presnnt time these are in use and the other one is handling the absorption plant products and some naphtha but not in 24 hour service at the present time.

Q Yes?

A Every line in the field is patrolled by line-walkers.

Q Have you enough absorption gasoline or naphtha or both to occupy the full time of one line?

A No.

Q The available time of one line?

A No, not at the present time.

Q Not at the present time?

A No.

Q That is why you use it also for crude?

A Yes.

Q Now, it must, when you need it?

A Yes.

Q It was necessary during the heavy load to use all lines 24 hours a day.

Q MAJOR LIPSETT: Is the No. 1 line needed for crude now at all, in carrying the small load?

A Not at the present time.

MR. FRAWLEY: Are you finished now?

Q THE CHAIRMAN: The difficulty, I take it, is a matter of market requirements, is it?

A That is.

Q As you spoke, sometimes you are very busy and sometimes you are not?

A Yes.

Q It is a matter of the demand?

A The demand governs the load.

Q Not the quantity of oil to go through the line?

A No.

THE CHAIRMAN: Yes, Mr. Frawley.

Q MR. FRAWLEY: Have you finished now describing the operation of the line?

A If I have made it clear, sir.

Q Now, this question of the absorption gasoline and the naphtha, at any time whose absorption gasoline have you got in the line, who does it belong to when you are talking about this absorption gasoline going through. It is coming from where and it is going where and it belongs to whom?

A It comes from the Royalite plant and the British American plant and belongs to both, as I understand it.

Q And you will have.....

THE CHAIRMAN: The absorption?

Q MR. FRAWLEY: This is the absorption plant product?

A Right.

Q Your natural gasoline, as it is sometimes called?

A Yes.

THE CHAIRMAN: Now, I seem to remember something being said in the newspaper reports at least of the proceedings in the Legislature, something about Mayland's absorption gasoline?

MR. FRAWLEY: His refinery is down there, and it stays there.

Q MR. FRAWLEY: You do not, you transport absorption gasoline for the Imperial Oil?

A Yes.

Q And for the British American?

A Yes.

Q And as you understand it, it belongs to the Imperial Oil or the British American, as the case may be, when it is going through your line?

THE CHAIRMAN: What about naphtha?

Q MR. FRAWLEY: And naphtha, the separator product, you have moved some of that in to the refiners in Calgary?

A Yes, we have in the past moved a great deal of it. At the present time very little.

Q THE CHAIRMAN: That is from the gas-cap, is it?

A The product from the gas-cap wells, yes.

Q MR. FRAWLEY: Now, that might be explained, I think, why in the past you used to move a lot of separator products, that is naphtha?

A Yes.

Q And now you are transporting largely absorption gasoline. Now, let me ask you first, do you know just roughly what that is called when it gets into the refinery?

THE CHAIRMAN: That naphtha?

MR. FRAWLEY: You call it a separator product. The naphtha is a separator product, is it not?

THE CHAIRMAN: I do not want to get confused in terms.

A May I say, sir, that is a little misleading there because your crude oil also passes through the separator.

Q MR. FRAWLEY: Oh, yes?

A Discolored naphtha would really be better.

Q As a matter of fact, in the price list it is called "crude naphtha", is that a good name for it?

A That is all right.

Q And it is a separator product?

A Yes.

Q And that is called "casing head" by the refiner, is it not?

A What?

Q The crude naphtha, he uses that as "casing head", doesn't he?

A I would not like to say "yes" to that, sir. Casing head has been applied and largely applied to the products produced in gasoline plants. There are very few fields in the world producing very much naphtha.

Q Yes?

A And you can call it "casing head" because gas from an oil well is called "casing head gas".

Q The absorption plant product is certainly called "casing head"?

A At times, yes.

Q And when he moved crude naphtha in then, the separator product, what does he use that for?

A I do not know.

THE CHAIRMAN: There is no use calling the one thing a lot of names. Let us take one or the other. You have absorption gasoline?

A Yes.

Q THE CHAIRMAN: You have used that term?

A Yes.

Q Now, are there any other terms that mean the same thing?

A Plant product.

Q Absorption gasoline is sometimes called "plant product"?

A Yes.

Samuel Coultis.

THE CHAIRMAN: I hear those terms and I would like to know.

MR. FRAWLEY: Other people, you will find, call it "natural gasoline".

WITNESS: I think if we confine ourselves to absorption gasoline, you can throw the rest of them overboard.

Q THE CHAIRMAN: All right, then we have "absorption gasoline", that is obtained by the absorption process from natural gas?

A Yes.

Q Then you have, secondly you have "naphtha", and you have spoken of "discolored naphtha", and you mentioned it as a separator product, and so on. Now, all right. What names will likely be applied by witnesses to naphtha as distinguished from absorption gasoline?

A I think you can use the term "straight naphtha", because at one time we had "discolored naphtha" and "white naphtha", but it is largely "discolored naphtha" or just "naphtha" to-day.

Q I see. The reason for distinguishing it at one time was that at one time you had "white"?

A Yes.

Q That is a thing of the past?

A Yes.

Q And then, of course, there is the crude, is it divided into divisions?

A Crude oil?

Q Yes?

A No, sir.

Samuel Coultis.

Q So that we have the three kinds of petroleum products in which we are concerned, that you say may be described as, first, "absorption gasoline", second, "naphtha", and third "crude"?

A Yes.

Q And are they in the most nearly perfect form in that order, first the absorption gasoline, the purer article, is it more nearly approximate to what goes into people's motor cars, than the naphtha?

A Well, they both have their faults, sir. Neither one of them are purified. They contain a large amount of sulphur.

Q Which is the more valuable, for which is the higher price paid in the field, at the producer's tank, if you know?

A I would have to look that up, it is very close.

Q MR. FRAWLEY: Crude naphtha commands now under the Imperial's present posting $2.14, 65 gravity and above. Of course, you said absorption gasoline, that, of course, is only found at the three plants, or four, the two Royalite and the one Mayland and the one British American, that is not a producer's product, the producer's products are crude oil and crude naphtha, and naphtha and crude naphtha means.....

THE CHAIRMAN: The B. A. buys all their absorption gasoline, do they?

MR. FRAWLEY: They make absorption gasoline down there.

THE CHAIRMAN: From their own wells?

MR. FRAWLEY: Oh, they process other people's gas and from their own wells and the wells they have under contract.

Q THE CHAIRMAN: There may be nothing in it at all. It is merely an admixture here, which means loss to someone, it may be the public or it may be the producer, and it may not be of any importance at all.

Q MR. FRAWLEY: It can best be dealt with, of course, by the refiners when they come to give their evidence, they will tell about that.

THE CHAIRMAN: Except probably no one better than Mr. Coultis can tell us how it is mixed.

MR. FRAWLEY: No, he is certainly the one for that, and I am just anxious to know who it belongs to really as it goes through the line, to find out where the loss would be, if there is any loss, in connection with this admixture in your pipelines, who are the people who have to bear it?

THE CHAIRMAN: He doesn't know.

WITNESS: I would assume that the man who bought it.

Q MR. FRAWLEY: It is either the Royalite Oil Company that sells it to the Imperial or the Imperial that buys it in that case, or it is the British American in the other case?

A Some of those three.

Q THE CHAIRMAN: Which, I suppose in the ordinary course is passed on to the ultimate purchaser?

MR. FRAWLEY: Yes, it certainly appears if there is a loss, I think undoubtedly you will find it appearing in the refining cost some place, and the refining costs are passed on.

THE CHAIRMAN: Yes.

Samuel Coultis.

MR. NOLAN: Excuse me, I do not think, Mr. Chairman, - there is one expression you have in your notes, that is this, "casing head gasoline".

THE CHAIRMAN: I understood Mr. Coultis to suggest that we should not use that term.

MR. NOLAN: But it has been used and will probably be used again and perhaps Mr. Coultis can assist you in defining it.

Q THE CHAIRMAN: Yes, how is that term used?

A Casing head gas?

Q Yes?

A The casing head gas is the gas which issues from the oil well or could be applied also to the gas issuing from a naphtha well. It is an old term and it refers to the gas at the top of the well, which is defined as the "casing head". From that the term "casing head gasoline" was derived many years ago and at that date would not necessarily apply to the absorption plants because they did not exist. They recovered it in compression plants. The absorption plant is a later type.

Q Yes, it was then recovered in, how did you say?

A Compression plants. From high compression and condensation.

Q Well, that too is a thing of the past, is it?

A Well, they are not so efficient as the absorption plants and they are gradually passing out of the picture.

Q In this field do you run into it still?

A Into that term?

Q Yes?

A Occasionally, yes.

Q I mean is your gasoline recovered by compression and condensation any longer?

A There are no compression plants in Turner Valley operated for the purpose of making gasoline.

Q So we probably will not be bothered much with that?

A No.

Q MR. FRAWLEY: Mr. Coultis, I think it is important to straighten these things out because while Mr. Coultis is here, they are going to keep coming up, we are going to hear the simgle word "casing head" used very frequently. You know how that is used in Turner Valley, "casing head", now what does that mean?

A It means the head which is placed on the top of the well-casing to close the top of the well in.

Q Then it must be translated from that, just to tell you what I mean, you are aware that there was some discussion in Edmonton before the last Conservation Bill was passed, and one of the chief complaints was that the Mayland interests were going to be prevented from getting their "casing head" because the natural gas wells were proposed to be shut in. Now, what did they mean by that?

A I presume they meant "casing head gasoline" or gasoline from that well delivered at a point at the casing head.

THE CHAIRMAN: If you want to know what they meant you might ask Mr. Mayland.

MR. FRAWLEY: I thought it might be all right while he is here. He is using these terms every day.

THE WITNESS: I am attempting to answer it.

Q MR. FRAWLEY: I thought it would be a simple thing.

A If you are going to pin me down to "casing head gasoline", that is literally what it means.

Q It may have been that Mr. Mayland was just talking about his absorption plant gasoline.

THE CHAIRMAN: That may be it;

MR. FRAWLEY: I think undoubtedly he was. It is not fair to ask you how he used the expression.

A I was not at that meeting and I cannot attempt to define it.

THE CHAIRMAN: All right, anything else from Mr. Coultis?

Q MR. FRAWLEY: Mr. Coultis, I asked you something about the making of repairs and renewals to your line, which you told me were charged in the annual operating costs?

A Well, now, I do not.....

THE CHAIRMAN: That was his understanding, he didn't say definitely they were.

A That is an accounting matter, and I do not want to get into that.

MR. FRAWLEY: I was going to follow up something which Mr. Nolan requested.

MR. NOLAN: Never mind it, but I think you should qualify him.

Q MR. FRAWLEY: Yes, I will qualify you, what is your life in the petroleum industry?

A I entered it in the first place as a chemist and then I came into Turner Valley in 1917, in February, and I built a small refinery and I had charge of the building of all of these plants for the Royalite with the exception of the one building this year. I had charge of production and plant and later was made field

superintendent, and I have been continuously employed in that field since 1917.

Q Now, Mr. Coultis, you say you entered it as a chemist, you were a chemist?

A Yes.

Q A graduate chemist?

A Yes.

Q From what university did you graduate?

A The University of Michigam, and I am also a member of the Engineering Institute of Canada and the Professional Engineers of Alberta.

THE CHAIRMAN: Your evidence has been very clear and very helpful, Mr. Coultis.

WITNESS: Thank you.

.....;.....

THE CHAIRMAN: How many other witnesses do you propose to call?

MR. FRAWLEY: I think we can finish by calling Mr. Kemp and then Mr. Watt will go on in the same matter, and I think that is all.

THE CHAIRMAN: And they speak as to what?

MR. FRAWLEY: They speak as to the movement of crude oil through pipelines, and the supplying of crude products to small refineries.

THE CHAIRMAN. I was trying to estimate the time. You will be on this afternoon?

MR. FRAwley: We might be on for a short time this afternoon, we might not finish.

THE CHAIRMAN: Could you finish by one o'clock?

MR. FRAWLEY: I think we might, yes, I think we might finish by one o'clock.

THE CHAIRMAN: Then I think we will give the reporter a recess and we will go on until one.. I imagine that would suit you all better?

MR. NOLAN: Very much better.

(An adjournment of five minutes was here taken).

.....

WILLIAM KEMP, having been first duly sworn, examined by Mr. Frawley, said:-

Q Mr. Kemp, you are the Secretary-Treasurer of Gas & Oil Products Limited?

A Yes.

Q And what is the business of that Company?

A Gas & Oil Products is a company which operates an absorption plant in Turner Valley, and also purchases crude oil, and operates a topping plant in the Valley,

from which the various different products are made, and.....

Q What is a topping plant?

A A topping plant is a plant that tops crude or extracts gasoline from crude oil.

Q Extracts gasoline and distillate?

A Yes.

Q From crude oil?

A From crude oil.

Q That is a refining process?

A I am afraid I am not technically equipped to differentiate between refining and topping. There are two distinct units there.

Q I just want you to distinguish between that and an absorption plant, such as I understand are there, are they different operations?

A The refining and the topping of the absorption plant, of which Gas & Oil Products has a topping plant and an absorption plant, those products, at least through a marketing organization, Gas & Oil Products sell the products which are made at the plant in Turner Valley.

Q THE CHAIRMAN: You just used the term "distillate", what do you mean by that?

Q MR. FRAWLEY: What is, first of all you do make a distillate in your topping plant?

A Yes.

Q As well as a gasoline?

A Yes, that is derived from crude.

Q Can you give the Commission not too full a definition of "distillate", as distinguished from "gasoline"?

A I am afraid I cannot.

Q But it is a petroleum product?

A It is a petroleum product.

Q Which is a motor fuel?

A Motor fuel.

Q A motor fuel?

A I do not think, well yes, certainly.

Q It is a motor fuel?

A Not a motor fuel, it is motive fuel. When you refer to motor, I presume you refer to motor cars? But a distillate cannot be used as a fuel for motor cars.

Q Not for an automobile, but it can be used in a farmer's tractor?

A Yes.

Q And is commonly used?

A Yes.

Q Then there is the general classification called "motor fuels"?

A Yes, certainly, and I presume the distillate is one of them.

THE CHAIRMAN: Now, we have had our absorption gasoline, our naphtha and our crude, and now you use the word "distillate". Until you get some witness to say, what do you mean by it, as this witness does not choose to define it.

MR. FRAWLEY: I mean a product of the same nature as gasoline, only not quite so refined.

THE CHAIRMAN: Ordinarily called "fuel oil"?

MR. FRAWLEY: Yes, it is called "fuel oil" by the taxing authorities in Alberta, it is called a fuel oil.

MAJOR LIPSETT: That is not in the sense that

we use oil in a motor car?

MR. FRAWLEY: No.

THE CHAIRMAN: It is not a lubricating oil either?

MR. FRAWLEY: No.

MAJOR LIPSETT: "Tractor gasoline", is that what you call it?

WITNESS: We sell tractor gasoline and tractor distillate, so I presume there is a difference there.

MR. FRAWLEY: There is bound to be.

THE CHAIRMAN: I was wondering when we come back, if not before we come back, if you cannot agree on a glossary of the whole thing, so that we may know,- thus far it is not very confusing, but I can see in the larger inquiry it may be.

MR. FRAWLEY: There is no doubt about that.

THE CHAIRMAN: You take the word presently used, and then give under each all the words that are thought to be synonymous with it, it would be a great help to us.

MR. FRAWLEY: Then we would just have to check the fellow that used some other word and say "no, we use some other word here".

THE CHAIRMAN: Yes.

Q Now, Mr. Kemp, you needed further crude oil in the operation of your Company's business in the Turner Valley?

A Yes.

Q And up until, say before the month of August last, where were you getting your crude oil?

A It has been the policy of Gas & Oil, as an independent Company, to secure its crude oil from other independent companies, that is companies not associated with or not under contract with the Imperial Oil, or the British American, and we were securing our crude oil from those sources.

Q From those sources?

A Through that source.

Q And making your contacts immediately with the producer at the well head, and taking your crude oil from the well head to your plant in Turner Valley?

A That is it.

Q THE CHAIRMAN: By pipe line?

A In some cases by pipeline.

Q MR. FRAWLEY: No, how did you take it?

A By pipe line and by truck.

(Go to Page 1002).

Q Well did you need to go to the Royalite Oil Company to have that service performed for you?

A Prior, in the Valley we had never purchased any crude from the Royalite Oil Company.

Q Then did you use their pipeline and pay them pipeline rates to get this crude to your plant?

A No sir.

Q Then when you said you moved some of it by pipeline, just what did you mean?

A A pipeline that was furnished by Gas & Oil Products.

Q THE CHAIRMAN: Their own?

A Our own pipeline.

Q MR. FRAMLEY: Your own pipeline?

A Yes.

Q And then some of it by truck, did you say?

A Some of it by truck.

Q Now did there come a time last August when you had some difficulty in obtaining a sufficient supply of crude?

A Prior to August, for two or three, for two months I would say, we had considerable difficulty in securing crude from that source, from the independent producers.

Q The producer at the well?

A Yes.

Q Why?

A I would say because our requirements were getting rather large, and due to the fact that we had made commitments with different refineries in Saskatchewan, whereby we were supplying them with crude oil.

Q You were acting, as you might call, "a broker"?

A Yes.

Q Or purchasing agent?

A Yes.

Q And you needed more crude than you were getting conveniently by making these individual arrangements with the individual producers?

A With the individual companies.

Q And so what did you do?

A Being the secretary of the Company I had, was endeavouring, of course, to secure crude from these different sources and I received permission from Mr. Mayland to write both the Imperial and the British American Oil Company.

Q And who is Mr. Mayland?

A Mr. Mayland is the President of Gas & Oil Products.

Q To write to the Imperial and the British American?

A And to the British American, the British American Oil Company, in an effort to secure crude for the purposes of our plant.

Q And did you do that?

A I did.

Q And I show you a copy of a letter addressed to the British American Company, is that the letter which you first addressed to the British American?

A That is.

MR. FRAWLEY: Have you seen this copy, Mr. Harvie?

MR. HARVIE: No, what date is it?

MR. FRAWLEY: The 9th of August. I offer this as an exhibit.

LETTER PRODUCED DATED AUGUST 9th, 1938, FROM GAS & OIL PRODUCTS TO BRITISH AmerICAN OIL COMPANY, HERE MARKED AS EXHIBIT "36".

Q That letter reads "Oil & Gas Products Limited, 300 Lancaster Building, Calgary, Alberta, August 9th, 1938. G. E. Watt, Esq., British American Oil Company Limited,

6th Avenue West, Calgary, Alberta", who is Mr. G. E. Watt?

A As I understand the Production Manager of the British American Oil Company Limited.

A "Dear Sir: For our plant in TurnerValley we will require approximately 1000 barrels of crude oil per day during the next 30 days. It would be very much appreciated if you will let us know whether or not your Company can supply us with this crude, and at what price. We would also like to know if this crude is available at what point it couldbe obtained . Your early advice in this regard would be appreciated. Yours truly, Gas & Oil Products Limited, W. Kemp, Secretary-Treasurer." Did you write at the same time to the Imperial Oil Company?

A I did.

Q And have you a copy of the letter you wrote to them?

A I have not a copy of that, Mr. Frawley. It was exactly the same letter with the exception of, that it was addressed to the Imperial instead of the B.A.

Q You just.....

A Worded exactly the same.

Q You looked, did you, on your file, but you could not find a copy of it?

A No, I didn't have a copy of that.

Q And what reply did you receive, first of all from the British American Company?

A The first reply I received was from the Imperial Oil.

Q And from whom?

A That I cannot recall, it was from someone in their office and he wanted to know.....

THE CHAIRMAN: Have you a letter?

MR. FRAWLEY: I have not asked Mr. Nolan for that. We can get the original.

THE CHAIRMAN: Mr. Kemp would have the original, it was addressed to his Company.

MR. FRAWLEY: This is the letter which Mr. Kemp wrote to the Imperial Oil.

THE CHAIRMAN: He wrote to the Imperial and to the British American, Exhibit "36"?

MR. FRAWLEY: Yes.

THE CHAIRMAN: What were their replies?

Q MR. FRAWLEY: It was a 'phone call from the Imperial Oil?

I have no letter from the Imperial, your Lordship.

Q And what did the Imperial Oil say?

A The 'phone call, as I recollect it, that I received, asked us for particulars as to our requirements, and in what quantities we would take delivery of this crude, providing they supplied us with it. I gave the information that we could take it in batches, as Mr. Coultis referred to this morning, of 5000 barrels, because we have storage facilities in the field to take care of it. That was the finish of any, what would you call it.....

Q Dealings?

A Dealings which we had with the Imperial Oil.

Q They merely asked you for more knformation and you gave it to them, and I am right in saying you heard nothing further from them?

A No.

Q THE CHAIRMAN: Did you call them again?

A No sir, owing to the fact that in the meantime I had had a call from Mr. Watt who stated that he could take care, at least that the British American Oil Company could supply us with crude.

Q Mr. FRAWLEY: Now then, just in order of sequence, what were your further communications, letters or dealings, with Mr. Watt, the first you say was, your next was a 'phone call which you have just described?

A Yes.

Q And then what?

A As I recollect it, I called on Mr. Watt and we discussed various phases of this deal. Mr. Watt intimated to me that he would be prepared to supply us with the crude from the Vulcan-Brown well which was the well closest to the Gas & Oil Products absorption plant.

Q Yes, you had some discussions with Mr. Watt?

A Yes.

Q And as the next thing then, your letter, the letter which you wrote to him on the 17th?

A I believe it is.

Q And is that the next letter you wrote to him, on the 17th?

A That is a copy of it.

LETTER FROM GAS & OIL PRODUCTS CALGARY, ALBERTA, TO THE BRITISH AMERICAN OIL COMPANY, DATED AUGUST 17th, 1938, HERE MARKED AS EXHIBIT "37".

Q Now this is the second letter to Mr. Watt. "Calgary, Alberta. August 17th, 1938, G. E. Watt, Esq., British American Oil Company Limited, 6th Avenue West, Calgary, Alberta. Dear Sir: Referring to our previous

conversations with regard to crude oil requirements for our plant in Turner Valley. This Company will be willing to take approximately 1000 barrels of crude per day during the next 30 days on the following basis, namely, at field price for gravity determined less 2% pipeline loss, and with a handling charge of 2¢ per barrel, deliveries to be invoiced to us on the 15th and the end of the month. We understand that thisccrude would be available for us at the Vulcan-Brown well in Legal Subdivision 10 of Section 5, Township 19, Range 2, West of the 5th Meridian. We would be pleased to hear from you in this connection at your earliest convenience. Yours very truly, Gas & Oil Products Limited, W. Kemp, Secretary-Treasurer."

Q You had, I take it, then discussed with Mr. Watt previously, the proposition that you would take your requirements from the Vulcan-Brown well?

A Yes.

Q That is a well over which he had control of production?

A So I understand.

Q In the order of sequence, let me call your attention to this, which purports to be a copy of an advertisement which you ran in the Calgary Herald, is that a true copy of the advertisement which you ran?

A There was an advertisement placed by Gas & Oil Products in the Herald, and I believe that is a copy of it.

Q You have seen this, Mr. Harvie?

MR.HARVIE: Yes.

COPY OF ADVERTISEMENT PRODUCED HERE MARKED AS EXHIBIT "38".

Q A copy of the advertisement appearing in the Calgary He ald, August 10th, 1938, two columns, four inches. "Wanted 30,000 barrels Turner Valley crude oil for our Hartell plant. Write or 'phone us at once. Gas & Oil Products Limited, 300 Lancaster Builidng, Calgary, Alberta," then you wrote this further letter to Mr. Watt, and did you get a reply from Mr. Watt?

A We did, Mr. Frawley, the letter of August 17th.

Q Is that the reply?

A That is apparently a copy of the letter we received.

MR. FRAWLEY: I will offer this as an exhibit.

COPY LETTER BRITISH AMERICAN OIL COMPANY TO GAS & OIL PRODUCTS, DATED AUGUST 17th, 1938, HERE MARKED AS EXHIBIT "39".

Q "209 6th Avenue, West. August 17th, 1938, Gas & Oil Products Limited, 300 Lancaster Building, Calgary, Alberta. Gentlemen: Attention Mr. W. Kemp. Referring to your letter of August 17th. I called Mr. F. A. Gaby', did you know whom Mr. F. A. Gaby is, Mr. Kemp?

A I do not know his, he is I believe, president of the British American Oil Company.

Q He is the vice-president of the British American Oil Company in charge of production, do you know?

A I believe that is correct.

Q "I called Mr. F. A. Gaby on long distance and he authorized me to advise you that we are prepared to furnish crude to you from the Vulcan-Brown well only, in Legal Subdivision 10 of Section 5, Township 19, Range 2, West of the 5th, as per the arrangement stated in your letter of August 17th, with the proviso that

if something unforeseen arises, whereby we have only sufficient crude for our own purposes, we will have the privilege of cancelling this arrangement on three days' notice. This, of course, is not anticipated. You will, of course, understand that there is always a possibility at the Vulcan-Brown well of mechanical tie-ups, and at the present I understand that they are pulling their tubing and acidizing almost immediaely in order to get this work done before your pipeline is in operation, so that you will not be tied up. You understand that we have no controlover the actual operation of the well. Our Superintendent is making arrangements with your Mr. Boyd in regard to working out satisfactory arrangements for gauging tanks, etc. We are very pleased to be able to accommodate you in this matter, but we want to point out that the handling charge of 2¢ per barrel is being set for this particular situation, and arrangement, and is not to be looked upon as a set handling charge for any other similar operation in the Turner Valley field, and should any other arrangement have to be made, it will have to be judged on its own merits, and the handling charge which has been agreed to in this case cannot be looked upon as a precedent. Yours very truly, Production Manager." That was the handling charge of 2¢ which was referred to in your letter of the 17th of August?

A Yes, that was the final arrangement which was made.

Q Now, is there any other correspondence of any importance which passed between you?

A That is all I know.

Q Now where is the Vulcan-Brown well with relation to the Gas & Oil Products plant?

A I would say approximately a half a mile West.

Q And how was it proposed to get the oil from the Vulcan-Brown well to your plant?

A By pipeline.

Q And a pipeline constructed at whose expense?

A At the expense of Gas & Oil Products.

Q And operated, that particular piece of pipeline operated when installed, to operate at your expense?

A Yes.

Q And before it was agreed upon as evidence by this letter of the 17th of August, in fact your two letter of the 17th of August, your letter to Mr. Watt and Mr. Watt's letter back to you, of the 17th of August, before that was arrived at did you have some discussion with Mr. Watt as to the fee which your Company would be charged?

A As I recollect it the first arrangement was as suggested by Mr. Watt, was that a handling charge of two and a half cents a barrel would be made by the British American Oil Company.

Q Yes. Well now, did the British American Oil have any handling of the oil?

A Not so far as I am aware.

Q The Vulcan, you ran your pipeline into the Vulcan-Brown well and took the crude from there over to your plant?

A The pipeline was hooked up to the production tank at the Vulcan-Brown well.

Q And went directly to your plant?

A Directly to the plant.

Q Why, did Mr. Watt indicate why he wanted to charge you anything, in the nature of a handling charge?

A Mr. Watt mentioned that they had certain duties to perform in connection with it, I cannot enumerate them all, but as I recollect, gauging and invoicing.

Q Invoicing?

Q THE CHAIRMAN: Gauging?

A Gauging the tanks.

Q MR. FRAWLEY: The British American would have to see to the gauging of the tanks at the Vulcan-Brown well?

A Yes.

Q And would also have to invoice your Company?

A Yes.

Q Because you paid the British American, of course, for this?

A Certainly.

Q You received your invoices from the British American?

A Yes.

Q The pipeline loss which you speak of in your letter, 2% pipeline loss, who absorbed that?

A That pipeline loss was the usual Government allowance for crude transported over pipelines.

Q Government allowance?

A Yes.

Q Well now, I never heard that before, why do you say it is a Government allowance, Mr. Kemp?

A Because on all of the Government production and royalty basis.

Q Because what?

A Because on all of the forms supplied to us by the Government for submitting oil production and royalty statements, there is a place there for a deduction

of 1% loss.

Q Oh yes, you mean this, now that is a new one, but at that time it was 2%?

A Yes.

Q This is the Department of Lands and Mines?

A Yes.

Q To whom you make returns for royalties due to the Provincial Crown?

A Yes.

Q And on that statement it shows a 1% pipeline loss which you say.....

A 1% now.

Q That is just a charge imposed by the pipeline Company is it not?

A I believe so, yes, but that allowance was given us by the British American.

Q My understanding is that your company was not, and is not yet satisfied, let me get the figures in first, what is the experience of your Company under that contr ct?

A According to the figures compiled.

Q Is this a copy of the statement showing the oil that you have received from the Vulcan-Brown well?

A And Brown well No. 3.

Q And from well No. 3, the Brown well No. 3, both through the British American Oil Company?

A Yes.

Q It shows the amount you paid?

A The amount of oil we purchased the price we paid for it with the handling charge in addition, and the total cost.

MR. FRAWLEY: I would like to offer this statement.

STATEMENT SHOWING AMOUNT OF OIL PURCHASED BY GAS & OIL PRODUCTS FROM BRITISH AMERICAN OIL COMPANY, WITH THE PRICE HERE MARKED AS EXHIBIT "40".

Q That statement shows that the Gas & Oil Products paid the British American Oil Company?

A I would not say Gas & Oil Products, Mr. Frawley, because after the arrangements were made the actual purchase of this oil was made by the U.P. Oil Company.

Q By the U.P. Oil Company?

A Yes, which is an associate company of Gas & Oil Products.

Q And its function was what in this transaction?

A To purchase that oil from the Vulcan-Brown or from the British American Oil Company.

Q And sell it to Gas & Oil Products?

A Yes.

Q There was another subsidiary of your Gas & Oil Products interposed in the arrangement?

A Yes, not a subsidiary, but an associate company.

Q But there was paid to the British American Oil Company for this oil by either Gas & Oil Products or an associated company with it?

A $35,000.00.

Q $35,498.50?

A Yes.

Q For a period commencing in July? Do you know when in July?

A No, I cannot say, Mr. Frawley, just when that was, when it would be. The crude oil supplied from the Vulcan-Brown, at least from Brown No. 3 well, during the month of July.

Q And you paid the British American as a handling charge a total of $579.20 during the period July to the end of September?

A Yes.

Q That is correct?

A Yes.

Q As follows, the month of July, $3.86, for handling charge, and the total amount of oil bought at that time $235.46; in the month of August you paid $263.06 for the handling charge, the total oil having amounted to $15,987.12; in the month of September you paid $212.90 handling charge, and the total oil purchased being $13,019.42; in the month of September you paid $99.38 handling charge, the total cost being, they are both September, the 15th and the 30th, $99.38 handling charge, total reported purchased amounting to $6,062.18, what does that other item mean, in the month of October "additional for 1% pipeline correction $194.32", you paid an additional $194.32 for a pipeline correction, that was under the heading of cost of oil?

A I think that that came in on account of the fact that the Government changed that 2% pipeline allowance to a 1%, and that was the reason for that correction.

Q Mr. Kemp, I only want to get things straight, but I do not follow you at all when you put any part of the responsibility for this pipeline loss on the Government, perhaps you do not just understand it?

A Well that is an allowance that apparently is made by the Government for crude being transported by pipeline.

Q Well .....

A We are allowed that on these Government returns anyway.

Q You do not use the Royalite Oil Company's pipelines?

A No.

Q In all politeness I think you have not had the proper impression of that pipeline and who was responsible for that pipeline loss?

A Probably not, Mr. Frawley, but that is my recollection of this thing.

Q You see it on most of these Government returns ?

A Yes, we have that on the Government return, and that there was an allowance of 2% given for oil transported over pipelines and it has been changed recently to 1% so that I presume that this additional 1% pipeline correction takes care of the, what we had been invoiced previously, and to take care of this 1% drop, in that pipeline drop.

Q I will ask Mr. Watt just as to what that means.

A Probably he can give you the explanation.

THE CHAIRMAN: Do you see any hope, Mr. Frawley, of our finishing?

MR. FRAWLEY: No.

THE CHAIRMAN: If we cannot possibly finish this morning with the witnesses you have here available, we might as well adjourn.

MR. FRAWLEY: I have taken quite a time with the correspondence. I do not want to deceive you, but...

THE CHAIRMAN: Use your own judgment.

MR. FRAWLEY: I am just about finished with Mr. Kemp, but Mr. Harvie may have a lot of things to ask him, I do not know.

THE CHAIRMAN: What is this all leading to?

MR. FRAWLEY: I am leading to it right now.

THE CHAIRMAN: We will go on and see.

Q MR. FRAWLEY: Mr. Kemp, if you had been privileged to deal with the Vulcan-Brown, we will call it the Vulcan-Brown well, but perhaps it is the Vulcan-Brown Oil Company.

A The Vulcan-Brown Oil Company.

Q If you had been able to go to the Vulcan-Brown Oil Company and make the bargain with it for your crude requirements, what would you have had to pay?

A I presume, had we been able to purchase it from them, we could have bought that oil at the posted field price.

Q At the posted field price?

A Yes.

Q You were providing the expense of the means of taking it away?

A Yes.

Q Were you not?

A Yes.

Q So I presume that paying the posted field price, is all that you would have had to pay?

A Yes, I should think so, yes.

Q But due to the intervention of the British American Oil Company, and the fact that they had this production tied up under their production contract, you had to do business with them?

A Yes.

Q That is right is it not?

A Yes.

Q And you, therefore, had to pay them a handling charge

which they imposed?

A That is correct.

Q And that amounted to $579.20 in the period of July, August and September?

A That is right.

MR. FRAWLEY: That is all I have to ask.

Q TO MR. HARVIE: Mr. Kemp, you are familiar with the negotiations from start to finish in connection with this deal?

A Yes.

Q And you carried them on?

A Yes.

Q Are you satisfied with it as a deal, so far as you are concerned, do you think it is a fair deal?

A Personally I was very glad to see that deal put through, because we had spent considerable time trying to get enough crude to keep the plant going, but so far as the Company is concerned, the feeling is that we should have been able to have purchased crude oil in the Valley without the payment of any handling charge.

Q And in all the circumstances you thought a two cent handling charge was a fair charge, and you agreed to pay it?

A I agreed to pay it, yes.

Q You thought it was fair under the circumstances, personally?

A Personally, yes.

Q Mr. Kemp, do you know if you took all the oil that was being produced from the Vulcan-Brown, during that period, or whether arrangements had to be made to take

such oil by the British American, to take such oil as you did not take from day to day?

A As I understand it we didn't take all the oil which was available at the Vulcan-Brown well during the period that we secured crude from that well.

MR. HARVIE: Thankyou.

MR. FRAWLEY: Mr. Watt.

THE CHAIRMAN: May I just get the point of this, Mr. Frawley, is it an indictment of people making contracts or what?

MR. FRAWLEY: It is a desire to show that there is some inability on the part of people who desire crude, to deal with an -independent well, I cannot put it any better than you have put it, Mr. Chairman, there the contract stood in the way, and the people who had the contract imposed a charge. I am not making any charges against anybody, but I think it is something, in view of the fact, of the scope of this Commission and all the things that we have to go into, that you should know, whether or not this has militated, the existence of these contracts has militated in any way against the freedom of obtaining crude supplies by any Company.

THE CHAIRMAN: The idea being, whether a contract for the output of the well for its lifetime should be put at an end?

MR. FRAWLEY: It may lead to that.

MR. CHAIRMAN: I wanted to know what it was all about, because it seemed reasonable, if somebody buys something and they go to sell it again, they will sell it at a profit.

MR. FRAWLEY: Yes.

MAJOR LIPSETT: This is not in any way affected by the main pipeline, the control of the main pipeline doesn't come in?

MR. FRAWLEY: No, the British American would have moved it, if they had moved it themselves they would have moved it through the pipeline.

MAJOR LIPSETT: But the control of the pipeline does not give any power over this deal at all?

MR. FRAWLEY: Oh no.

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GEORGE E. WATT, having been first duly sworn examined by Mr. Frawley said:

Q Mr. Watt, you are the Production Manager of the British American Oil Company at Calgary?

A In Calgary, yes.

Q And you are the person that made the arrangement with the Gas and Oil Products to let it have the production or some production from the Vulcan Brown Well last August?

A Yes, with Mr. Kemp of the Gas and Oil.

Q And you finally arrived at some arrangement whereby they would pay you posted field price plus a handling charge of 2¢ a barrel?

A Yes, and allow them a 2% pipeline allowance.

Q Yes, and what handling did you have, what expense was your Company put to after it had turned over this production to the Gas and Oil Products?

A Well we had the expenses involving, before we started to turn this thing over, in the way of making our arrangements as regards our crude and arriving at the position where we could supply the Vulcan Brown, which entailed long-distance telephones to Toronto and so forth, and then after the arrangement was made then the staff had to supervise the gauging of the tanks before delivery is made to the gas and oil pipeline. Then there is the administration of that, office expenses, both in Calgary and through our Head Office in Toronto and of course the collection of the account.

Q Mr. Watt, what is the position of the small refiner

coming into Turner Valley to purchase crude oil direct at the well-head, is he under any disability at all?

A Not at the present time, if he has the money to pay for it.

Q That is unless he runs up against a well that has contracted its production.

A No, he can put his nomination in to the Conservation Board and get what he wants.

Q Oh yes, then he gets pipeline run.

A He gets pipeline run.

Q But if there should be a refiner desiring to purchase at the well-head so as to get oil of one uniform gravity, is he under any disability?

A The only case, Mr. Frawley, of that is where a refiner wants to get a high gravity crude.

Q I mean there are not many of them looking particularly for low gravity crude, but whether it be high or low.

A Pipeline run.

Q Would be low, there might be such a thing as there is high gravity crude, pipeline run and low gravity crude, or is that theoretical?

A I would not say that. You take the pipeline run is what is looked upon as being the regular purchase.

Q And that is what he must, he must content himself with that?

A Yes.

Q And if he has a skimming operation or a tapping plant, as Mr. Kemp called it, it makes it difficult

for him to run anything but high gravity, there are such people as that.

A Yes.

Q Then he is under some, is he under some disability then in using pipeline run?

A He is, but I think, Mr. Frawley, that you should ask the Conservation Board what they think of high-grade of oil in value.

Q High-grade.

A What they call high-grade and whether your Conservation Board would be in favour of that.

Q What does that mean, high-grade?

A Buying crude of a high gravity from any one particular well.

Q Is there some objection to that, that is the very thing I am putting to you, is there some objection to that?

A Yes, because of the intermittent purchases.

Q I am doing that because I have a brief here from a man in Regina who does not think he can afford the expense of coming up, and he is anxious to have brought to this Commission his difficulty in obtaining crude from a well of a particular gravity.

A It would involve a great deal of trouble in handling it.

Q It would what?

A Involve a great deal of trouble in handling it.

Q Trouble to whom or by whom?

A Well to the well owner or the party who might have that crude under contract and have to supply it.

Q If this man in Regina has a truck or a number of trucks and is willing to send all the way up to the well-head in Turner Valley to take that particular crude, because it is of a particularly high gravity you see and more useful to him, more profitable to him in his operation, there is nothing to prevent that operation going on, is there?

A Well it would mean possibly the establishment of a great deal more storage, tank storage at that particular well.

Q At that particular well?

A And might mean that you would have to have gaugers on there night and day waiting for these trucks to arrive and they might not arrive at all for two or three days if you had a storm or anything like that.

Q You know, that is why I ask you, you know all about these things, some of these refiners would like to do that, you know that?

A Yes, I have been asked for it. If is was possible, but there were so many difficulties connected with it that it makes it almost impossible, not impossible but very difficult to handle. I think your Board will advise you on that, Mr. Frawley.

TO MR. HARVEY:

Q Mr. Watt, during the negotiation and when you first received the request from the Gas and Oil Products or the U. P.,,to supply this oil, it was eventually worked out that they wanted about 30,000 barrels over the 30 day period?

A That is correct.

Q Approximately 1000 barrels a day?

A 1000 barrels a day for 30 days.

Q You canvassed the situation on behalf of your Company to see if that request could be complied with?

A I did.

Q Why did you choose the Brown, the Vulcan Brown well?

A That was the thought that both Mr. Kemp and I had, that well being the closest well to the Gas and Oil Products plant and a well that had sufficient production to satisfy the other requirements in this particular case.

Q In other words it was the most convenient well?

A The most convenient.

Q To them, regardless of your own requirements?

A That is right.

Q Did you make any suggestion or was it discussed at all, that they deal directly with the Vulcan Brown Company?

A I don't think that was brought up but I did go to the Vulcan Brown Company to find out if they wished to deal direct with the Gas and Oil Products.

Q And what did you find out?

A They found out that, I found out that they were against dealing direct with the Gas and Oil Products as they had a contract with us and they did not wish to break same.

Q So that happened, they felt that they would rather have you look after the thing, instead of making a direct deal?

A That is right.

Q During this period, I will give you the date, from the 18th of August until the 24th of September, were the dates of the 1st and last deliveries of the oil.

A I think that is correct.

Q And during that period, which was a period of 38 days, the Gas and Oil Products did not take all the production from the Brown Vulcan well?

A You mean the 1000 barrels a day?

Q The 1000 barrels a day.

A No sir.

Q Do you know how much they did take?

A Approximately 28,000 barrels.

Q Which would be 757 barrels a day?

A That is correct.

Q In other words they did not take the anticipated amount over that period on a day to day basis?

A No, the original agreement was for 1000 barrels a day for 30 days.

Q And they didn't take that?

A No.

Q Now that necessitated you making arrangements to pump the surplus?

A Yes.

Q On the Vulcan Brown lease there was not sufficient storage to look after the excess?

A I do not know what reason they had.

Q But you did from time to time have to pump?

A To take care of the situation.

Q So it meant doubling the work so far as gauging and

invoicing and everything?

A It would be possibly an additional work so far as gauging is concerned, I don't think it mattered so far as the invoicing.

MR. HARVEY: That is all.

Q THE CHAIRMAN: Did you build or are you building a refinery, your Company, either in Turner Valley or in Calgary?

A We are in the process of building a refinery now in Calgary.

Q In Calgary.

A In Calgary.

Q To refine Turner Valley crude?

A Yes.

Q And it is being built right now?

A Yes.

Q At what expense, do you know?

A Well it is estimated a million and a half dollars.

Q A million and a half dollars?

A Yes.

Q I suppose your company would take into account the life of the field before building a refinery here?

A They would have to give certain consideration to that.

MR. HARVEY: Mr. Chairman, I might say it was anticipated that a properly qualified officer with full knowledge would appear before the Commission on these matters, although Mr. Watt is perfectly capable of answering some of these questions.

Q THE CHAIRMAN: I just wondered why you would spend a million and a half dollars if the life of this field was only two or three years?

A There may be other fields before the Turner Valley field goes out.

Q In Alberta?

A In Alberta.

Q Would it be built to take care of crude from any other place, would it be built in Calgary.

A Pardon.

Q Would such a refinery be built in Calgary to take care of the refining of oil from other sources than Turner Valley, or that field generally?

A If the field is reasonably adjacent to Calgary.

Q All right, I will not pursue it.

Q MAJOR LIPSETT: Mr. Watt, where you make a contract with a well to take oil from them, is that similar to the Imperial contract in this respect, that you must get the whole production of the well.

Q THE CHAIRMAN: For the life of the well?

A The contract usually is for the life of the well, but we can only take from that well the amount, the allowable as set by the Conservation Board.

Q Quite so, but they cannot sell their oil to anyone else except your Company?

A According to the contract.

Q MAJOR LIPSETT: Then if an independent refiner wants oil, is he in practice compelled to go to you or the Imperial?

A No sir, he can now make his nomination on the Conservation Board and get his requirements as long as it is within the allowable of the field.

Q But assuming that all the wells were under contract

to the Imperial or the British American, how would he get it, how would the independent get it?

A All he has to do is to nominate to the Conservation Board and he will get his requirements.

Q Without any handling charge such as this 2¢?

A He would have to take that from the end of the pipeline and he would have to pay the pipeline charge the same as everybody else has to do. We have to do that too.

Q Well in the case of a well such as this Vulcan Brown well, where it was not on the pipeline?

A That is why there had to be a special arrangement made in order that the Gas and Oil Products could get the crude for their refinery, which was so close to this well.

Q And in that case you had the well tied up, I am not saying it was not quite fair.

A No.

Q That they had to come to you and give you this handling charge.

A We were in the best position to handle the matter and we did.

Q Then that could place the independent refineries in a disadvantageous position with regard both to your Company and to the Imperial?

A No, they have the same right as we have. We can only buy from the end of the pipeline but it so happened that that suits our purpose. If Mr. if the Gas and Oil Products refinery was in Calgary then the question would not have come up at all.

Q Is there any way in which this particular refiner

could have gone and got the crude without a handling charge to your Company, either to your Company or the Imperial, at that particular time?

A If there were any wells available they could have contracted with them.

Q Well could they have contracted with them to get the quantity of oil which they wanted, would the well not be in this position, if they sold them some oil they could not sell the balance either to you or to the Imperial because you would not take it, unless you got all the production.

A You take it, it was a case that here was 30,000 barrels required right in the peak season of the year and at a time when we were beginning to be worried about the rise in the gas-oil ratios and if I remember right during that time the allowable that the Vulcan Brown well dropped from some 1900 barrels down to 1100 barrels.

Q I am not even suggesting Mr. Watt that you did not give full value.

A I understand that sir.

Q It is not that, but I am trying to get the position, I quite understand if any well down there, if it supplies an independent refiner who cannot take the whole production, is that well then out of business for the rest of its production by reason of the fact that neither you nor the Imperial Oil will take it?

A I would answer it this way, that when we contract a well we take that well over the whole year, during the winter months and if we cannot use that

production from that well, we have to store that production so that it can be taken from that well a certain amount during all, during the whole of the year.

Q You prorate them all equally?

A That is it, sir, but here is an instance where there is 30,000 barrels demanded right in the very peak season of the year and possibly not calling on us for, until the next peak season.

Q I appreciate those particular circumstances in that case and that you gave them this supply at a time when they were more or less stuck for a supply.

A Yes.

Q I am just trying to get the picture in the ordinary case of an independent refiner and an independent well that wants to supply that refiner as far as its requirements will go, but they have more oil than that refiner can consume, is the well then unable to market the balance of its product by reason of your contract and the Imperial Contract?

A That is if they had no contract with us.

Q Yes, and couldn't get one if they continued to supply this independent refiner?

A Well the reason possibly why they had not contracted to the British American Oil Company or the Imperial Oil Company is that they anticipated securing contracts outside of those two companies in order to dispose of their production and if they are unfortunate, that somebody has fallen

down on them and they cannot do it, that is a risk of the business and that is why the other companies are anxious, other producing companies are anxious to make contracts with us the major companies in order that their production will be taken over the year.

MAJOR LIPSETT: Thank you.

Q MR. FRAWLEY: Mr. Watt, do you pay any storage for what you have down in the Imperial Refinery?

A I am sorry Mr. Frawley I cannot answer that, it doesn't come under me.

MR. FRAWLEY: I will file this map.

MR. NOLAN: May I ask Mr. Watt one question?

THE CHAIRMAN: Certainly.

TO MR. NOLAN:

Q Mr. Watt, you are the Production Manager of your Company?

A Yes.

Q As such you have a special knowledge of the pipeline facilities of the Royalite Oil Company?

A Yes.

And the manner in which they serve these wells which are under contract to your Company?

A Yes.

Q Would you say that the pipeline facilities were adequate, Mr. Watt, or inadequate?

A I will answer that this way, that we have received excellent service from the Royalite pipeline.

MR. NOLAN: All right, that will be all.

Q MR. FRAWLEY: Do you know anything about suffering any loss in grade on either crude or refined products being moved in over these lines?

A I am sorry again, that does not come under the production department.

MR. FRAWLEY: I will then file this map, this is the map originally made by Mr. Link and he has either at his own instance or at our request shown on that map Mr. Davies' area "A" and "B" in a different colored hatching. He has also shown all of the drilling wells either in or out of areas "A" and "B" and all the producing wells whether in or out of areas "A" and "B". He has also shown in different colours the acreages of the Royalite Oil Company. I think that should be an Exhibit.

MAP PRODUCED AND MARKED AS EXHIBIT 41.

THE CHAIRMAN: You have something.

MR. NOLAN: I have a history of the pipeline laid from the day the pipeline was installed, the 24th of November 1925, to the 30th of November 1938, showing, sir, the variation in the history of that price and the volume of the daily run throughout the period. I think that is what was wanted. I will not take time to read it sir, it is perfectly plain.

THE CHAIRMAN: You have seen that.

MR. NOLAN: No my Lord, Mr. Frawley has not seen it, it has just come.

THE CHAIRMAN: You put it in subject to any

examination by Mr. Frawley that he may see fit to make with respect to it or anyone else of course. That will be Exhibit "42".

STATEMENT PRODUCED BY MR. NOLAN IN REFERENCE TO THE PIPELINE RATE SINCE INSTALLATION HERE MARKED AS EXHIBIT 42.

THE CHAIRMAN: Now you were also providing some more.

MR. NOLAN: I was going to provide, sir, I do not know that it was for an exhibit, I mean an estimate of the investment or this pipeline company, to be broken up in a very general way between the trunk line and the gathering system. This has been prepared by my accountant, sir, and it does not take into consideration the very controversial question such as depreciation and the rate of depreciation. I think you wanted to know, sir, how much money has been put in.

THE CHAIRMAN: That is right.

MR. NOLAN: Then I think that will serve your purpose sir. That has not been shown either to Mr. Frawley, because it has just come in.

THE CHAIRMAN: I think we will receive it now, Mr. Frawley, subject always to your examination into its accuracy.

MR. FRAWLEY: I want to say to Mr. Nolan that Mr. Morrison went over it last night, this is the first time he has seen this but this is the result arrived at.

THE CHAIRMAN: Well I will just take it in that way now, its accuracy and so on may be examined later. I take it that no one wants to enter upon that at this time.

MR. NOLAN: That is so sir, and the accountant will in due time enlarge upon the whole thing, although this is a very small part.

THE CHAIRMAN: Then the history of the pipe-
li line is Exhibit "42" and this statementsof monies, capital expenditures in respect of the pipeline will be Exhibit "43".

STATEMENT OF CAPITAL EXPENDITURES RE PIPELINE HERE MARKED AS EXHIBIT 43.

MR. NOLAN: May I take these exhibits away and have copies made.

THE CHAIRMAN: Yes.

MR. NOLAN: Then they wanted from me the Royalite balance sheets.

THE CHAIRMAN: Yes.

MR. NOLAN: Now I have them for the years 1921 to 1937 inclusive, from the years 1921 to 1937 inclusive. Now they are rather awkward, sir, because they are of varying sizes and bulk.

THE CHAIRMAN: I suggest they be put in, well I don't know, I was going to suggest they be put in one large envelope but it may be, they may be discussed separately.

MR. FRAWLEY: Yes, it might be worth while to give them separate numbers.

THE CHAIRMAN: At least for the moment and for the purposes today it would be convenient to file them as one and they can be sub-divided later if and when it is necessary to refer to them separately, if that will be satisfactory.

MR. NOLAN: Yes my Lord.

THE CHAIRMAN: Then those balance sheets will be placed in one envelope and made Exhibit 44.

BALANCE SHEETS OF THE ROYALITE OIL COMPANY FOR THE YEARS 1921 TO 1937 INCLUSIVE HERE MARKED AS EXHIBIT 44.

THE CHAIRMAN: Anything else?

MR. NOLAN: I do not think of anything else.

MR. FRAWLEY: I think there is nothing else. Then this will conclude the sittings until, it is understood then, the 9th of January, that was the date agreed upon.

THE CHAIRMAN: As I understand it, everybody concerned who has voiced an opinion is of the opinion that we cannot usefully meet before that time and that being so, that being your opinion Mr. Frawley.

MR. FRAWLEY: Yes.

THE CHAIRMAN: That is your view to, Mr. Nolan, is it.

MR. NOLAN: Yes.

THE CHAIRMAN: And you Mr. Smith and Mr. Harvey.

MR. SMITH: Yes.

MR. HARVEY Yes.

THE CHAIRMAN: If you all think that, I think there is nothing for it but to adjourn now until the 9th day of January next and we hope you will all have a pleasant holiday.

(The investigation was here adjourned to be resumed January 9th, 1939.)